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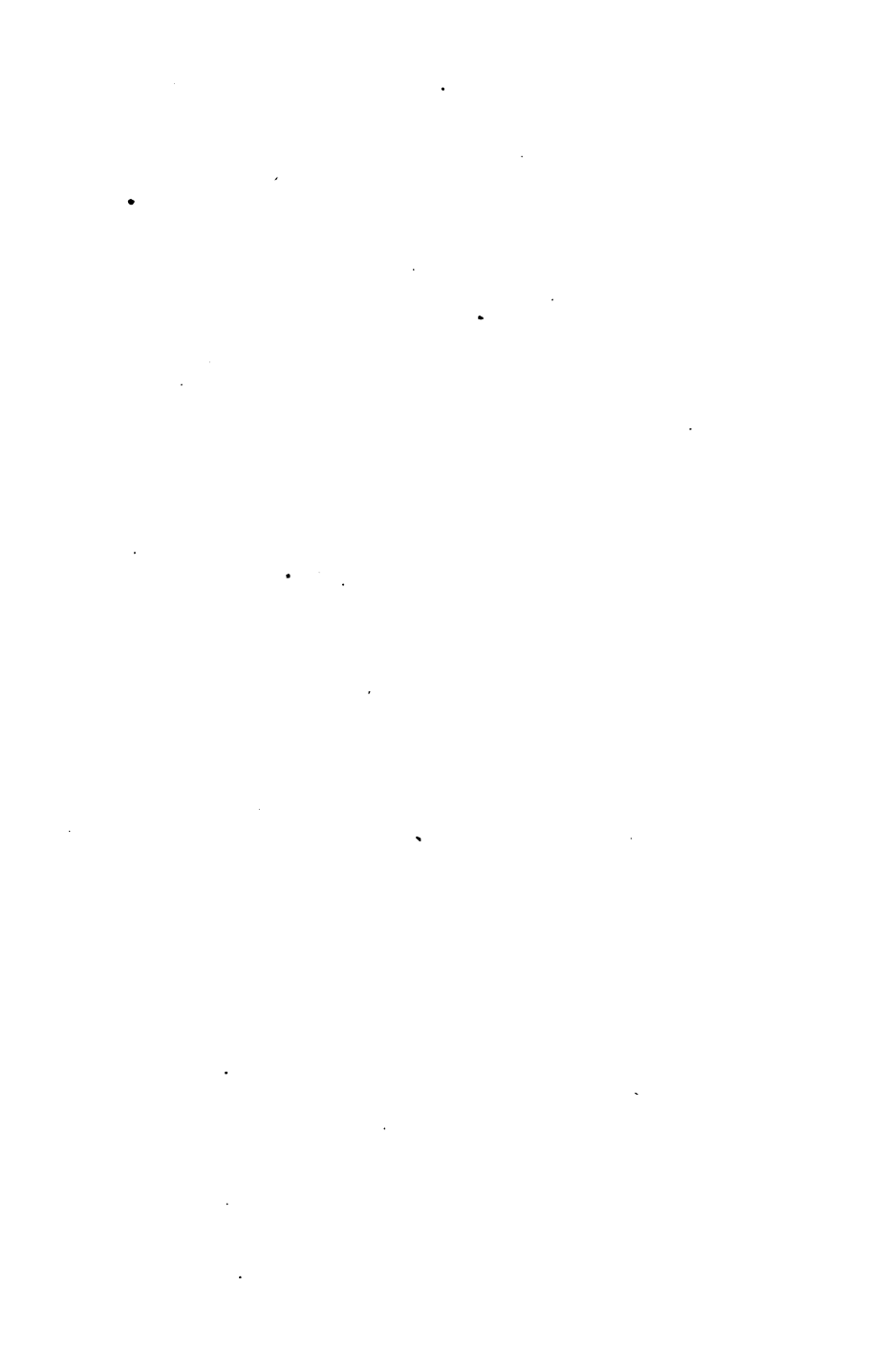
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HUMAN CONDUCT

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HUMAN CONDUCT

A TEXTBOOK IN GENERAL PHILOSOPHY AND AP-
PLIED PSYCHOLOGY FOR STUDENTS IN HIGH
SCHOOLS, ACADEMIES, JUNIOR COLLEGES,
AND FOR THE GENERAL READER

BY

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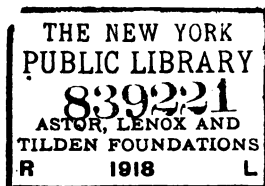
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TO

A. DUNCAN YOCUM

TO WHOM I AM INDEBTED FOR THE PEDAGOGICAL VIEWPOINT WHICH GUIDED THE CONSTRUCTION OF THIS BOOK, AND WHO, AT THE UNIVERSITY OF PENNSYLVANIA, HAS GIVEN TO SO MANY MEN A NEW VISION OF THE MEANING AND POSSIBILITIES OF EDUCATION

This Volume is Gratefully Dedicated

PREFACE

THIS book represents a venture in a new field. It undertakes to make available for the secondary school and for teachers' reading circles, materials for a course in General Philosophy corresponding to the courses in general science and combined mathematics which have lately won an apparently established, and certainly well-deserved, place in the curriculum. The book attempts to combine into an integrated elementary course materials selected from psychology, logic, ethics, and the psychology and philosophy of religion. The work has been in the making for nearly five years, and was taught from mimeographed copy for two years to the senior classes in the high school at Royersford, Pennsylvania. During this period of construction and experience, the course underwent many modifications, each of which, it is hoped, has resulted in a more perfect adaptation of it to its purpose and to the age of the pupils for whom it is intended.

As no course, even a general course, may be a mere jumble of unrelated facts, the author has attempted to maintain throughout a consistent viewpoint, — that of the bearing of the material selected upon the individual's effective control of his own conduct. Whatever did not bear directly upon this was excluded, no matter how attractive in itself. For this reason explanatory psychology has been kept subordinate to the practical and has been brought in only in such way as to reinforce the latter. Topics without direct practical application for the ordinary student, such as Weber's Law or a detailed description of the nervous system, are omitted entirely. Likewise aspects which have to do chiefly with social relationships rather than individual efficiency are omitted. Within the field selected the author was con-

tinually guided, too, by the test of relative usefulness of the matter to the ordinary student.

The second distinguishing feature of the work is the effort to emotionalize the instruction. It is not ideas alone, but ideas warmed with emotion, that get carried into action. Hence the author's chief effort was to build up strong impressions and emotionalized attitudes rather than merely to give speculative knowledge. This was attempted partly through the use of such arguments and such relative emphasis as are calculated to arouse feeling, and particularly through the use of literary quotations embodied in the text wherever it seemed that they could contribute toward building up a dynamic attitude. For this reason, too, anything that might tend to break the force of the impression was avoided. Qualifying phrases which strict scientific accuracy would sometimes require have been omitted for the sake of clearness and emphasis.

In conducting this course the teacher should lead in a reaction upon the text. The typical question should not be "What does the book say?" but "Is the author right?" "Give examples from your own experience," "How does this principle apply to such and such practical situation?" etc. A number of such questions, supplementary to the text and calling for reaction upon it, is appended to each chapter.

It will, of course, be obvious how intimately a work such as this bears upon the vexed problem of moral training in the high school. It undertakes to provide the student with principles for the control of conduct and, as such, constitutes moral instruction in the broadest sense. The author believes that moral instruction in the high school must take on a more systematic and intellectual form than in the grades, but a less philosophical form than in the college, and hopes that this book may be of some service in providing a basis for such instruction.

My obligations are so many that it is impossible to acknowledge more than a few of them specifically. I have drawn freely upon the literature in the field and, indeed, claim

originality for little except the type of organization and the relative emphasis. It is a pleasure to me to acknowledge my obligation to Dr. A. M. Melvin, Secretary of the Royersford School Board, without whose sympathy and support this book, at least in its present form, could not have been produced. I am also greatly indebted to Professor Ellwood P. Cubberley, who, at considerable sacrifice of time, went carefully over the whole manuscript. My indebtedness of Professor A. Duncan Yocum is indicated in the dedication. My thanks are due to The Macmillan Company, D. Appleton and Company, and Professors Lightner Witmer, Daniel Starch, and E. L. Thorndike for permission to reproduce certain cuts.

The following acknowledgments also are gratefully made: to Henry Holt and Company for permission to quote rather extensively from James's *Psychology*; to Lothrop, Lee & Shepard Company for permission to quote, from *Whiffs from Wild Meadows*, Sam Walter Foss's poem, *The Calf-Path*; to Edwin Markham for permission to use a part of his famous poem, *The Man with the Hoe*; and to Orison Swett Marden for permission to quote frequently, especially in chapters XXIII and XXVI, from *Pushing to the Front*, *Success*, and others of his books.

The author's gratitude is due to the following persons for reading parts of the proof and making suggestions for revision: Mr. H. T. Main, principal of the high school at Delaware, Ohio; Professors H. P. Reeves and H. V. Caldwell of the Ohio Wesleyan University; and Miss Edith M. Lehman of the high school at Abbingdon, Pa. Miss Lehman went carefully over the whole of the proof and suggested many improvements.

C. C. P.

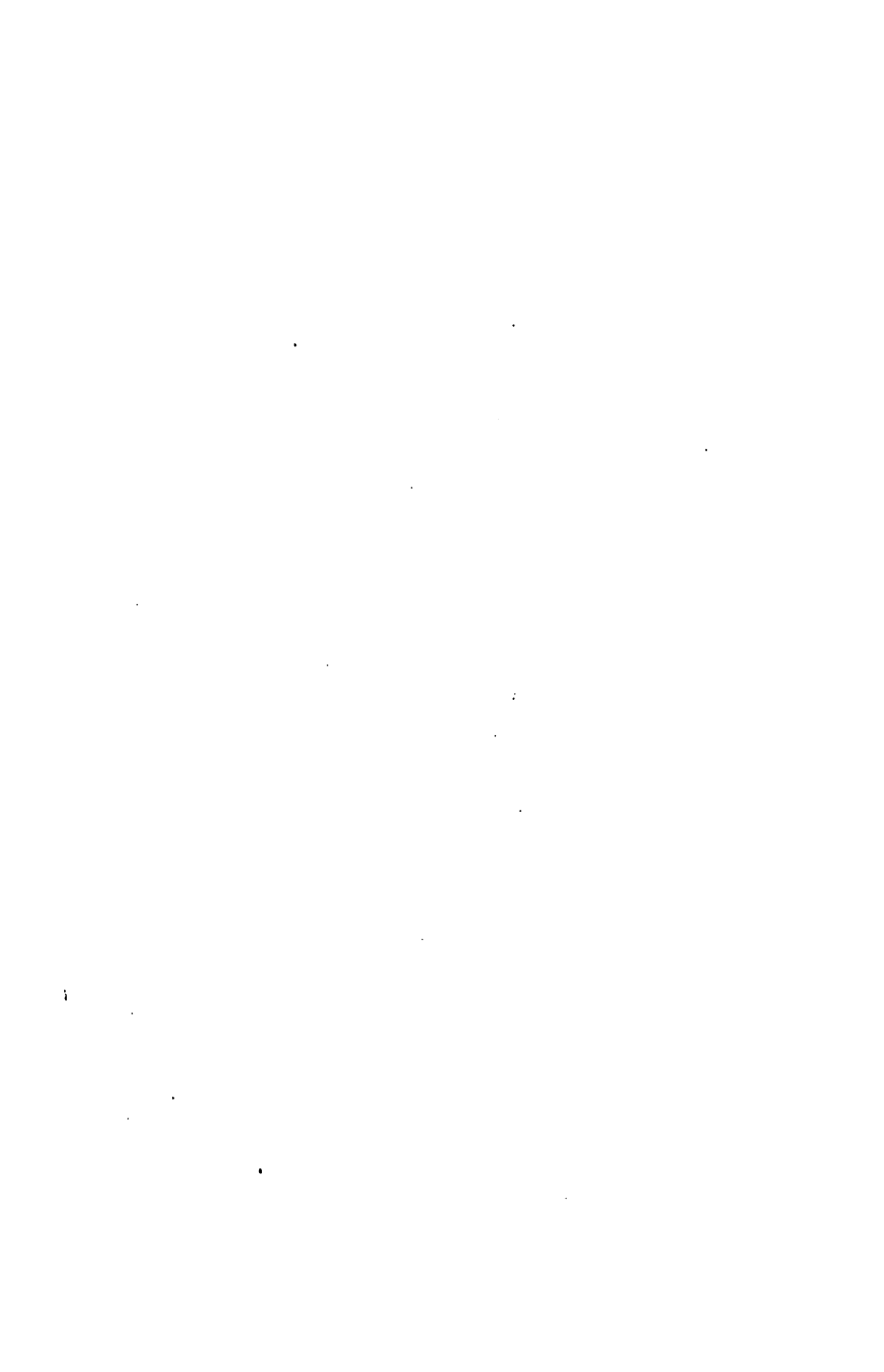
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HUMAN CONDUCT



HUMAN CONDUCT

CHAPTER I

HOW OUR WORLD GETS ENRICHED

The richness of our world. — Would you not like to live in fairyland? It is the land where every wish is realized. It contains no desert spots. Every nook holds fresh surprises, every drop of water and every blade of grass even are full of meaning. Turn where you will there is everywhere to be found a wealth of interesting objects. It is a world of wonder, and compared with it our own world is tame and insipid.

Now in fact, that enchanted land is not far away. The path to it is in one sense very short. Indeed that land lies already all about us. For no fairyland of our dreams can equal, in the multitude of interesting things it contains, any ten square feet of space in which we may, at any moment, happen to be standing. Only we can not see them. We need the fairy, not to transport us to some other, magic land, but merely to open our blinded eyes. And yet, near to us as this fairy land in one sense is, it is in another sense very far away. For the dimness of vision which shuts out from us the richness of this magic world is not a dimness of the physical eye, for the correction of which an optician may grind a lens in a day, but a dimness of the mind itself, and the only optician who can grind a lens to clear up the haziness of this "mental eye" is oneself, and we can do it only through long years and infinite care. For the lens must be gradually ground out of our own experience and, as time goes

on, adapted to the mind which must see through it. Only as this is done can the wealth of this fairy world take on distinct outlines and reveal its beauty to him who has earned the right to enjoy it.

But little of this wealth utilized. — “But this,” you say, “is speaking in mysteries. Give us plain directions which we can follow.” Well, let me say, then, that this fairy world is, as the theologians tell us of the Kingdom of Heaven, within us. It is a state, a condition, rather than a place. We are outside of it only because we have not yet learned to see in our world what is really there. We are all much like a certain man Professor James mentions, who once replied to a biologist, when the marvelously complex structure of a worm was shown to him, “Why, I thought the thing was nothing but skin and squash.” Whether we confess it or not, most of us hold an equally unwarranted opinion not only of worms but of other phases of reality as well. We see only “skin and squash” where one with eyes to see what is really there would find infinite richness of content. How greatly men differ in the extent to which they really see what lies about them, you must have often observed. A little story — “Eyes and No-Eyes” — which Kingsley quotes illustrates this. It runs, with Kingsley’s comments, like this :

“Well, Robert, where have you been walking this afternoon?” said Mr. Andrews to one of his pupils at the end of a holiday.

Robert had been to Broom Heath, and round by Cape Mount, and home through the meadows. But it was very dull, he thought. He saw hardly a single person. He would much rather have gone by the turnpike road.

Presently in comes Master William, and terribly wet and dirty he is. He never before had such a pleasant walk, he says; and has brought home his handkerchief full of curiosities.

He has a piece of mistletoe and wants to know what it is; he has seen a woodpecker and a wheatear, and gathered strange flowers on the heath; he has hunted a pewit because he thought its wing was broken, till of course it led him into the bog, and very wet he got.

But he did not mind it because he fell in with an old man cutting turf, who told him all about turf cutting. And then he went up a hill and saw a grand prospect and twenty things more; and so on, till he had brought home curiosities enough, and thoughts enough, to last him a week.

Whereupon Mr. Andrews, who seems to have been a very sensible old gentleman, tells him all about his curiosities; and then it comes out — if you will believe it — that Master William has been over the very same ground as Master Robert, who saw nothing at all.

Whereupon Mr. Andrews says, wisely enough, in his solemn, old-fashioned way:

“So it is! One man walks through the world with his eyes open, another with his eyes shut; and upon this difference depends all the superiority of knowledge which one man acquires over another. I have known sailors who have been in all quarters of the world, but who could tell you nothing but the signs of the public houses.

“On the other hand Franklin could not cross the Channel without making observations useful to mankind. The observing eye and inquiring mind find matter of improvement and delight in every ramble. You, then, William, continue to use your eyes. And you, Robert, learn that eyes were given you to use.”

Nor is it only in nature that one man can find so much more than another. It is true in every sphere. To the man of untrained taste all teas, all wines, all cigars taste alike, but to one who is expert in those matters there are endless and pronounced differences, and indeed much of the pleasure in using these is dependent upon distinguishing between the brands. In music, too, there is, you know, the greatest difference between men. To one class a symphony is a production rich in harmonies, complex yet systematic in motives, full of touching variations and delicate overtones — indeed one of the richest and most meaningful fragments of reality. Yet to another this very same symphony may be no more than a simple, irksome brawl. Similarly, when two persons read the same book, or hear the same speech, it may be to one full of food for thought but to the other empty and insipid. Indeed in countless ways

the world is immensely bigger for one class of men than for another.

Our subjective contribution. — Now why is it that some men see so much more in the world than others? The external environment is the same. Why not the experience? There must be some other factor than the object itself, some subjective factor. It must be that we see with the mind as well as the eye. Let us, then, consider whether this is really true, whether what is presented from without is really the only element of experience.

Selection. — In the first place we shall find, I think, that not everything presented to our senses is admitted into consciousness. Just now, as you read, are you conscious of all that is battering upon your senses? Your nervous system is sending messages to your brain about the temperature of the room, but you are probably not heeding them; sounds fall upon your ear but in vain. Pressure sensations from your chair and desk are being reported, but you are oblivious of them. The only sensation that really gets a hearing is that of the series of words which make up these sentences. Even in this you are neglecting the greater part. You take no explicit notice of the individual letters or even the separate words, of the color of the type, etc., while you are absorbed in the reading. From the whole mass of sensations beating upon your body, your mind reaches out and welcomes only that small fraction which it itself desires. All the rest make merely a vague background for that which specifically interests you.

And so it is in general. If you are looking at a flower, the singing of the birds, the fanning of the breeze, and the color of the sky are forgotten, though they as well as it are impinging upon your sense organs. When your friend is relating to you an incident, all else but the sound of his words, and such other facts as are connected with this, are excluded from your mind. Indeed even from the object to which you

do attend, you take in the merest fragment of what you might, as you will readily see if you will consider how few details you have really noted in the last chair that you have observed.

Addition. — But on the other hand, we add to what we do pick out for attention. Only a meager portion of the characteristics which we attribute to an object is given to us through sense. The remainder we ourselves contribute. You see a round yellow spot with a certain play of light and shade upon it. Immediately you say it is an orange and your mouth begins to water as you contemplate it. But sense has not shown it to you as an orange. To the peculiar play of light and shade upon it you have yourself attached the notion of sphericity, because you have usually found spherical objects give that sort of effect. From many little factors, none of which presented it to you directly, you have inferred first its position and then its size. Its taste, the structure of its interior parts, etc., all come vaguely into your mind and together they constitute the idea which you call orange. It is not the little yellow spot, but the multitude of associated ideas coming over from your past experience, which this little dab of yellow only serves to call up, that enables you to know it as an orange. How much must you really observe before you are ready to call an object a table? Only a distorted parallelogram for its top and a leg or two. The rest of it you supply out of your own mind. A rattling, broken noise falls on your ear and forthwith you say to yourself — “A wagon is passing by.” Yet all but the merest fragment of the experience of the passing wagon comes from within yourself. An artist makes a few strokes with his pencil, and you, generously filling in the outline from your own imagination, acknowledge it to be a completed human face. You even go further and, from trifling curves in the lines, assign to the sketch a mood or even a permanent character, and permit your soul to be thrilled by the delusion.

Recasting. — Nor do we from within merely take away from or add to what is presented. We thoroughly reconstruct

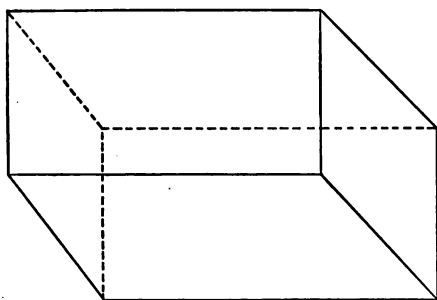


FIG. 1.

it — make it over — until it is tinged through and through with our own personality. No matter how unorganized our data may be, we insist upon thrusting upon them some sort of order. To assure yourself of that, look at the ac-

companying figures. They are really only lines on a flat surface, but it is extremely difficult to see them as no more than that. You almost irresistibly see them as certain solids, just because you can not help adding, from your own mind, some interpretation that will give them a meaning.

Indeed you never look out into reality but that you project much of yourself into it. If you attempt to count a nestful of eggs, they immediately group themselves for you into threes, though actually in the nest they are not so grouped. If you look out upon a cornfield, you at once find yourself tracing out lines through it, though it is just as

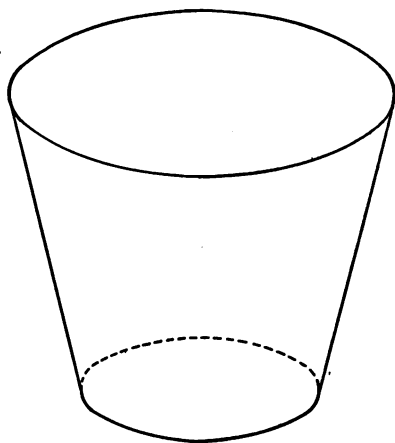


FIG. 2.

valid to see the field as a mere aggregate of hills. It is a poor drawing that does not convey some meaning, and a

word or sentence must be much distorted before you will misunderstand it. The effort is sufficient to give the suggestion and out of your own mind you supply what should be there. If you get drowsy you may read "petty" or even "poodle" for "pretty," but ten to one you will not utter some mere nonsense word. If you are trying hard to recognize some obscure object, you see it now as this definite thing, again as that definite thing, but never as a mere chaos. It always has for you some meaningful form. The writer's class in Experimental Psychology was confronted with a dozen ink spots made merely at random. These spots had absolutely no symbolical form, yet every member of the class took each one of them to represent some definite object like a dog, an animal's skin, a map of Africa, etc. It is indeed impossible to take the world simply as it is. We must take its parts and group them into such forms as will have meaning, even though we ourselves must put the greater part of that meaning there out of our own minds.

Plato's figure. — It is clear, then, that our mental attitude determines what our world is to be for us. The external world is not merely thrust upon us from without. The mind itself reaches out for such parts of it as it knows how, or cares, to take. The old philosopher, Plato, tells us that there comes an image from the outer object toward the eye; and that out from the eye there flows sight to meet the object. The union of these two, he says, somehow produces the actual perception of the object. The outer impression alone, according to Plato, is not enough; we must do our part; we must meet the impression halfway. Now, crude as this psychology of the old Greek philosopher sounds, it is essentially true. Before we can perceive any object we must go out mentally toward it and contribute to it much of its experienced content, so that it contains as much of us as of itself. Only to-day psychologists describe this act in less crude terms than Plato did.

Interpreting by preperception. — By way of getting at the present-day account of the matter, let us consider what happens when one is hunting for some object. Have you ever noticed that you can find a book on the library shelves much more readily if you know not only its title but also what it looks like — its size, the color of its binding, etc.? Then, in looking for the book, you carry a framework of it in your mind, and your attention is arrested only on those volumes which appear to fit into this framework. Without such framework in mind it is extremely difficult to find the book. If you have several books to hunt, it is generally necessary to seek one of them at a time, with the mind set specifically in shape to grasp the one then looked for. It is in the same way that you hunt for a given word or quotation on the printed page. You bring to the page a mental picture of what the matter sought is to be like, and, as soon as you meet the thing which fits into your mental framework, you recognize it immediately. Similarly you can pick out of a chorus the voice of a friend, or out of an orchestra one of its instruments, if you bring to the situation a clear image of how it is to sound, formed from previous acquaintance, and strain actively for that which will fulfill this image.

But even when you are not consciously searching for a definite object essentially the same thing is true. The mind is always actively fishing, never merely passively receiving what is thrust upon it. Suppose you are trying to make out what an object, approaching you at a distance, is. You try first this tentative perception, then that, until the correct one is found. You suppose, say, that the image is of a cow and proceed to see whether, in certain critical respects, it behaves like a cow. If not you give up that attempt and suppose that it is a man. This you try out and, if you find it not verified, you try the supposition that it is a stump, etc., until you find a mental picture that will work. Usually, however, these attempts of the mind to fit its advance

nage upon the object are not so obvious. Yet they are always there. Only when the object is easily recognized, you run down incorrect trials so rapidly and hit so quickly upon the one that will fit that you do not notice the nature of the



FIG. 3.

process. But you never perceive any object except by the mind's running out to meet it and asking whether it is not so and so. What objects are, is not thrust upon you, but your mind always first goes fishing for them with a net that it itself has fabricated, and these external objects must merely wait until they can respond — "Yes, now you've got me."

Professor Witmer describes this process by saying that we always bring to our object a *preperception* of it. From

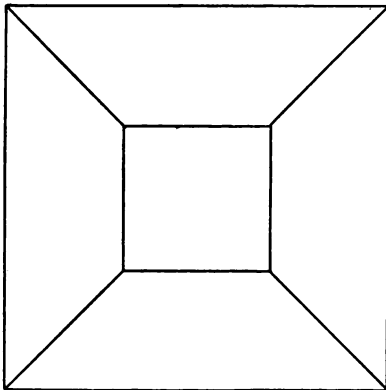


FIG. 4.

our past experience we are able to imagine to ourselves how it is to look, or sound, or taste, or operate, and then fish for it with this mental net. The following figures, in addition to the illustrations given above, will help you to convince yourself that this is true. First think to yourself how a square tunnel would appear if you looked through it from

just a little distance away. Now look at figure 4 and see if you can not see it in that way. Now think how a frustum of a pyramid, with its smaller base turned toward you, should appear, and see if you can not interpret the same figure in this way also. Similarly you can see figure 5 as a set of stairs from above or from below, according to the preperception which you bring to the diagram.

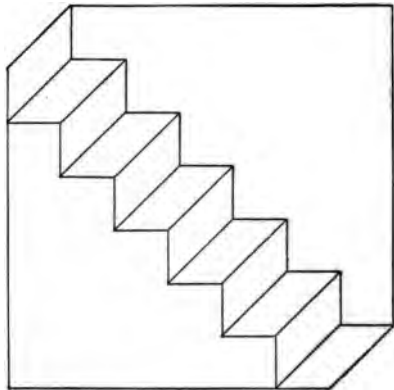


FIG. 5.

Apperception. — It is thus plain that you see your world in a way determined by what you, at the time, have in mind.

You do not simply *perceive* it as it is; you *apperceive* it — *that is*, you assimilate it to a body of experience which you

have previously acquired. This word "apperception" is a most important word in modern Psychology, and it means simply this fact, which we have been describing, that you do not take your world merely as it is, but that the mind reaches out for it from within, that you look at it from a certain angle, and that you read a meaning into it which is determined by what is in your mind. What the thing means to you is thus determined by the "mass" of experience acquired in your past. It is because you have seen steps from above and from below that you can see the figure just referred to in those ways. Otherwise it would be impossible. If your experience had dealt more largely with a zigzag plain figure you would have seen it in that way. The students referred to above saw an ink spot as an animal's skin if they had been hunters, as a map of Africa if they had been studying that continent, etc. But evidently no one can bring as a means of interpretation any preperception which he has not developed in his own previous experience.

Our world rich as we make it. — You see, then, how very much of ourselves we project into the outer world. It is quite as much *us* as it is *itself*. If it seems rich and full of joy, that is not unlikely a projection of our own inner richness; if it seems poor and barren, that may be due to our own poverty of soul. Emerson inquires: "What can we see or acquire but what we are?" and some twenty-five centuries ago the old philosopher, Heraclitus, remarked, "It takes a man to recognize a man." You can not make the world small for a big man. "He is never alone who is attended with great thoughts." By the half that he apperceptively contributes to the environment he can touch up with splendor the most unpromising waste.

Olivia, in Shakespeare's *Twelfth Night*, replies to her suitor's messenger,

I will not be so hard-hearted. I will give out divers schedules of my beauty; *it shall be inventóried, and every particle and uten-*

sil labeled to my will ; as, item, two lips, indifferent red ; item, two gray eyes with lids to them ; item, one neck, one chin, etc.

And really this tabulation represents all that Olivia was in herself. Yet she was infinitely more to the love-sick prince. Why? Because he overlaid and enriched this external framework with a radiance springing from his own infatuation. He himself put into his sweetheart, as all lovers do, most of what he felt her to be. Similarly our fellow citizens, who have traveled abroad, tell us how sublimely beautiful the American flag looks to them when they see it for the first time after a long absence. Surely this beauty is not in the combination of stars and stripes. It is a beauty born rather within the patriotic soul, and merely laid upon the gaudily colored textile to touch it up with glory. And so it is in general. The greater part of the content we see in reality is actually added to the object from within our own souls by our mode of apperceiving it.

The way to fairyland. — And now I am ready to tell you the way to that fairyland spoken of at the beginning of this chapter. It is merely to enrich your own life. You only need your eyes opened. But you see with your mind even more than with your eyes, and the secret of open eyes is a well-stored soul. What you have got in the past — and every iota of it — will affect your mode of apperceiving for all the future. If you have learned in Physics the scientific facts about expansion and contraction due to heat, you can never again see a cracked sidewalk in the same manner as before. In some subtle way there will lurk at least a vague sense of the cause of its cracks, and the sidewalk will be a different and a more meaningful thing to you. When you study Botany, a flower becomes forever changed in meaning. After you have read the "Forest Hymn" the woods must inevitably take on an added significance. Indeed, you can get no item of information that does not have its share in transforming and reconstructing the whole realm to which

it belongs. To be sure you will be unconscious of all this. You will be unaware that your world has changed — and grown — for apperception is a very subtle process, and you are as unconscious of its influence as you ordinarily are of your prejudices — to which indeed it is closely related. You glide into the new and larger way of looking at things so gradually that you do not feel the shock. But certainly all of your past acquisitions — all that you have made of yourself mentally — do gather about any situation which confronts you and tinge it to the core.

And so the pathway to the fairyland is in one sense short. It does not belong to another world, but lies all about for him who can perceive it. And yet, in another sense, that pathway is long and devious. For, though you build your own world, you can not build it capriciously. You build it out of the forms that your own past has supplied, and these forms must be wrought out through long and laborious effort. So before you can receive the outer wealth, you must have won an equal inner wealth to match it. You can not afford, therefore, to neglect any opportunity to enrich your inner life. You should pass by no opportunity to get any sort of legitimate information, for every such new mental acquisition is an added tool with which you can mine from your outer world new stores of wealth. If you complacently rest in the breadth of training to which you have already attained, and drift day by day through essentially the same round of experiences, your whole world will remain commensurately barren. If, on the other hand, you keep alert and open-minded, dip into any field which is likely to yield some new fact, — if, by observation, by reading, and by attendance at lectures, you acquire many different viewpoints, your whole world will grow with the growth of your inner life. Whether it will pay thus to educate yourself is then a much broader question than whether it will increase your salary. Many things are worth learn-

ing that are of no commercial value. The question is one of culture, of humanity, of spiritual depth and breadth — whether it is more worth while to live in a world that is big with a rich, varied, and meaningful content than in one that is meager, cramped, sterile. For mental possessions are no mere luxuries that you must either sell for a price or let rust away within. They are always active, dynamic, creative, and it is they that enlarge your habitation from a narrow-walled dungeon, where all but a few sterile forms are shadowy and indistinct, to a sun-lit realm of wide horizon and rich and clear-cut configuration.

EXERCISES

1. Is it true that "seeing is believing," or is it rather true that "believing is seeing"?

2. Using some object in the room as an illustration, show that an object as apperceived is reconstructed from within your own mind.

3. Have you ever overlooked an object for which you were searching on account of having a wrong advance image (preperception) of it? Explain.

4. Can you think of any case where the mind does not "go fishing" for its object, but has that object thrust upon it while passive?

5. Is it true that a man can find in his world only the counterpart of himself? Why?

6. Give illustrations of fields in which your reading and study have fitted you to see more than would have been possible otherwise.

CHAPTER II

HOW MISUNDERSTANDINGS ARISE

Double Apperception.—*Of figures.*—You have doubtless been impressed by the very great differences between men in respect to the value which they attach to the same object. Hughes, in apologizing for Tom Brown's strange infatuation for Miss Patty, remarks,

There is no accounting of tastes, and it is fortunate that some like apples and some onions.

You may, perhaps, get a hint as to why one person should be so ravished by an object to which others are indifferent by examining Figure 6, the picture on page 16.

What we have here is a situation which yields to double interpretation. Similar situations, equally susceptible of double interpretation, are often met, as the following illustrations show. Figure 7 can be seen as a duck's head or as a rabbit's head. Figure 8 can be apperceived as a frustum of a pyramid with the smaller base either toward you or away from you, according as you look for one result or the other. Figure 9 is a plane figure with zigzag lines, a set of stairs from above, or a set of stairs from beneath. Figure 10 can be seen as a set of six cubes with their shaded bases above, or as a set of seven cubes with their shaded bases below.

Into each of the following frameworks of words you can put any one of several meanings :

d - - k - o - se s - - ed j - rm

Now in these simple situations you have a clue to much of life's misunderstandings. They are only double interpretations of situations which yield themselves to two ways.



sea
cep

f

FIG. 6.

A girl and her grandmother — find both.

"fing taken. And you can learn how to estimate and to of them from a study of the psychology of these trifling

lanation. — Why, then, is it that you can see in the objective presentation several different meanings? It

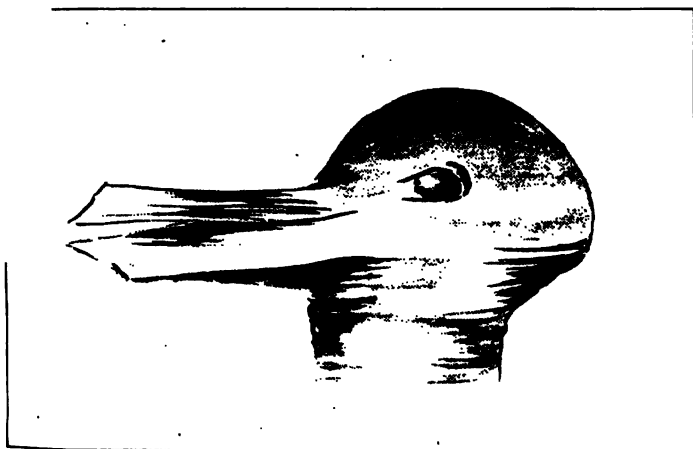


FIG. 7.

is because, as we learned in our last chapter, you never see anything merely as it is in itself. You always contribute something out of your own mind by way of interpretation. You do not merely *perceive* it, but *apperceive* it. This you do by bringing to it, as we have learned, a preperception of it — an expectation of what it is to be. And now the reason why you can get several meanings out of the same objective situation is that you bring different preperceptions to it. Thus the frustum of the pyramid you can see with the small base toward you if you shape your preperception in that way, or with the small base away from you if in that way. So you can see the stairs as from above if you throw your mind into the right mold in advance, or as from below if you screw your mental framework, before approaching

the diagram, into that bias. When you shift pretation to another you are aware of gat

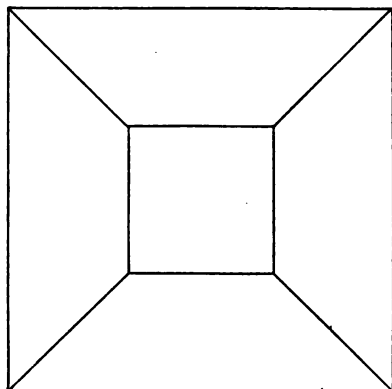


FIG. 8.

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And so here, in our study of apperception, we go a step beyond that of the last chapter. There we learned that what a thing means to us is determined very largely by what is

our own minds by reason of our past experience. But now we see that the apperception is due not only to what we have experienced, but to what we, *at the moment*, have in mind. When we bring one "mass" of consciousness to the object, we get one result; when we bring a different "mass," we get a different result. Or, rather, when our con-

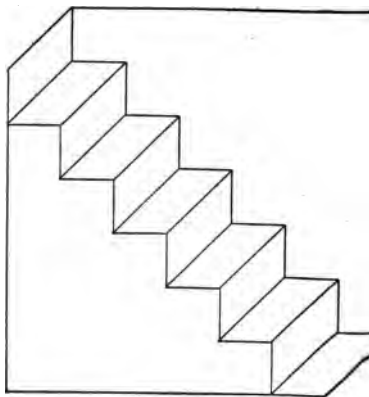


FIG. 9.

sciousness is organized about one "pivot" or "focus," we apperceive in one way; when organized about another

"focus," in a different way. Any situation is thus capable of having quite different meanings to different persons, or

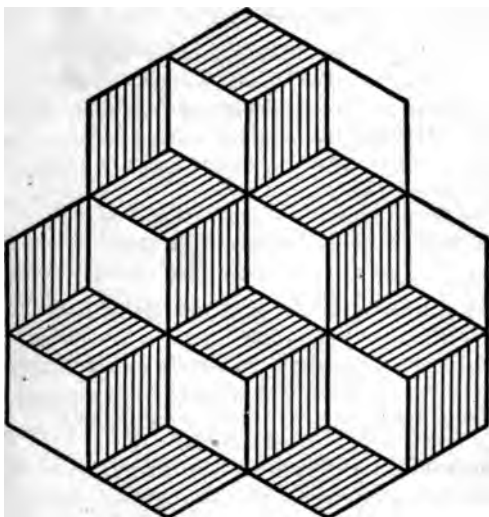


FIG. 10.

Copied, by permission, from Witmer's *Analytic Psychology*.

even to the same person at different times, according to the way in which it is apperceived.

Of nature. — A conversation of Polonius and the mad Hamlet illustrates this possibility of change of mode of apperception with its resultant change of meaning :

Hamlet. Do you see yonder cloud that's almost in the shape of a camel?

Polonius. By the mass, and 'tis a camel indeed.

Hamlet. Methinks it is like a weasel.

Polonius. It is backed like a weasel.

Hamlet. Or like a whale.

Polonius. Very like a whale.

In a little poem, "The Artist and the Poet," Miss Wieand portrays the very different values found in the same land-

scape by men of different interests, and hence different angles of apperception, the artist seeing the world in terms of color, the poet in terms of sound :

Two stood upon a hilltop, looking far
 Across the summer landscape, and to each
 Appeared a different beauty in the scene.
 The artist saw the sunlight shining gold,
 The fleecy clouds, the waving green of trees,
 The shadows here, the gleam of rivers there,
 The shifting lights ; and on his canvas, true
 He painted the fair vision as he saw.

* * * * *

The poet saw, and through his inmost soul
 A thrill full-sweet swept . . .
 And joyously he sang the wind's gay song
 As riotous it swept o'er hill and vale ;
 The triumph song of waters rushing down
 To join the quiet river song below ;
 The call of wood-birds ; summer's many sounds
 Indefinite, yet vocal ; and the hum
 Of summer bees and merry winged things.

Of expressions. — You have observed, too, without doubt, what radically different meanings can be found in the same word or the same expression. You remember the response of the Delphian Oracle, when Croesus came to inquire what would be the result if he made war upon Cyrus, that, if he did so, he would destroy a great empire. Elated, the old king made the assault but found, to his dismay, that the great empire which he was to destroy was his own instead of that of his enemy. Sermons widely different, if not opposed in spirit, are often preached from the same text. Especially when expressions are taken out of their context, they can be construed in ways of which the author never dreamed. It is indeed difficult so to phrase an expression that it is not capable of yielding more than one plausible meaning, as writers of legal documents and formulators of questions for debate have frequently experienced.

Summary. — Now what do all these illustrations really show? Merely something like this: We never see our world as it is. We get it in a way that is colored by what we already have in mind. But sometimes our mental content is cast in one mold and sometimes in another. Hence we apperceive a situation now in one way and again in another, and so find in it different meanings. Thus, when we build up our mental content — our “apperception mass” — in one way we can see the stairs as from above, or the cubes as right side up; when we build it up in another way, we can see them in the opposite position. It is the “set” of the mind that determines what objects shall mean. And, in the same way, though much more easily, one person may bring one mental attitude — one mental “set,” or content — to the situation while another brings a different one, and in consequence the two apperceive it radically differently.

Double interpretation in wider field. — Now, so far as our illustrations have gone, this fact of differences in interpretation due to differences in apperception are interesting enough, but not very serious. The same law, however, does involve consequences that are extremely serious, — even tragic. For it holds just as well of the weightiest matters as of the most trivial. We misunderstand each other in respect to some of the most vital problems of life merely because we apperceive the facts in the case from different angles. Here it is not so easy to compare notes and correct our mistakes, and unfortunate, even fatal, misunderstandings arise and persist, and no small share of men’s sorrows are to be traced to this simple psychological cause. Misunderstandings thus grounded have lighted the fires of the martyrs of all ages, have incited all wars, and have divided men everywhere into mutually hostile classes.

Transubstantiation. — To illustrate this, take the old theological doctrine of “Transubstantiation,” — the doctrine that the bread and wine of the sacrament are turned

into the actual body and blood of Christ. There was among the old schoolmen a distinction between the "essence" and the "accidents" of a body — between what it is in its inner character or intent and what it is in its sensible qualities that can be severally examined and counted. Now what the orthodox meant by the doctrine of Transubstantiation was that in essence the sacraments had changed. In the new use to which they were put they stood for a different thing. In the mind of God, who sees them for what they are worth, they have been transmuted. A thing's deepest nature lies in what it is good for — what it is used as — and in this deepest nature the bread and wine were transformed when they ceased to be articles to eat and drink for nourishment, and became embodiments of the purpose of the Lord's Supper. Their chemical and physical properties had, to be sure, remained the same, but this was but a superficial matter. The opponents of the doctrine, however, were thinking of the accidents of the sacrament — of its molecular structure, its size, its shape, etc. They saw clearly that these did not change and held it absurd, in consequence, and even sacrilegious, to believe that the bread and wine were transformed into the body and blood of the Saviour.

Now both were right. Each found in the doctrine one of its possible meanings, and supposed that he had found its whole and necessary meaning. Each party was characterized by a certain bent of mind. He was thrown permanently into some such mental attitude as that which temporarily characterized you when you saw the figure above as a stairway from beneath. Thus he was able to apperceive the situation in only one way. To each, in consequence, the other seemed a fool. Yet these two modes of apperceiving the problem were each legitimate. They were supplementary rather than contradictory. Yet over this supposed disagreement discussion raged for a century and the blood of many a martyr was spilled.

Theory of evolution. — The theory of evolution is another illustration of misunderstanding arising out of different modes of apperceiving the same doctrine. The theory itself is that all higher forms have come, by unbroken development, from lower ones. Approaching this question with a mind habitually bent into theological interrogation points, one set of people apperceive the doctrine as only an elaborate refutation of the divine creation of the world. On the other hand, approaching the doctrine with a mind set in the modern scientific mold, another class looks upon the theory as an explanation of how all the parts of the universe hang together in one unbroken system. To the one class the theory is primarily a theological denial; to the other primarily a scientific affirmation. If only each could do for a moment what you were required to do when you saw the figure above as a set of stairs from beneath, *i.e.* voluntarily reshape his mental attitude so as to apperceive from a new angle, he would no longer consider his opponent a fool. It would become apparent to him that both viewpoints contain truth, and that one has the whole truth only when both are combined, when one sees the universe as hanging together in a developing system and yet divinely created and sustained.

Importance of apperception from many angles. — In fact, persons who persist in looking at any situation in only one way are like two observers on opposite sides of a house, one contending that he knows the house has a bay window because he sees it, and the other contending, with equal emphasis, that it does not have because he does not see it. If the observer behind the house could go around to the front, while he in front made a tour to the back, they would find a mode of reconciling their differences without either giving up his part of the truth. Certainly by going all around a house, and viewing it from every angle, one would have a fuller and more balanced notion of it. And, similarly, by

adopting in turn many different standpoints in the consideration of any problem — by apperceiving it, that is, in as many ways as possible — one can get a much saner and more complete grasp upon it. To be able (or willing, which amounts to much the same thing) to see a matter from only one standpoint is the essence of bigotry and narrow-mindedness, while to be able — and willing — to see it from many angles is the essence of broad-mindedness.

Difficulty of balanced apperception. — *Lack of experience.* — But important as it is to be able to put oneself in another's position, and see a problem through his eyes, it is an extremely difficult thing to do. Many people are debarred from doing it by actual lack of experience. To apperceive in the way in which another does, one must have had the essential elements of the experience that he has had. One can build different "apperception masses" out of the same past experience, but one can not build the same mass out of different experiences. If the theologian has never been trained in scientific thinking, he can not adopt the standpoint of the evolutionist; and if the scientist has not had at least the basic elements of religious ideas, he can not possibly look through the theologian's eyes, however good may be his intentions. It is always difficult for persons whose work, whose thought, and whose reading lie in totally different fields to understand each other. The only salvation in this situation is for him who wishes to be a whole man to acquaint himself, through thought, reading, and direct experience, with as many and diverse phases of life as possible, and thus fit himself to take understandingly and sympathetically the viewpoint of many different men.

✓ *Habit.* — Again others, who have had a wider range of experience, have permitted themselves to become confirmed in a single, ever persistent attitude. They have allowed their mental content to crystallize in some definite shape, so that they can apperceive in only one dominant way. Their

minds have gravitated into a certain mold with time, just as a suit of clothes assumes with use a certain shape. You have doubtless seen how men, after they have looked at a matter for a long time in one way, can scarcely be brought to see it in any other light. If we do not constantly struggle to keep ourselves fresh and open-minded we all fall, before we know it, into certain fixed and one-sided ways of looking at life's problems. Says Professor James :

There is an everlasting struggle in every mind between the tendency to keep unchanged, and the tendency to renovate, its ideas. Our education is a ceaseless compromise between the conservative and the progressive factors. Every new experience must be disposed of under some old head. The great point is to find the head which has to be least altered to take it in. Certain Polynesian natives, seeing horses for the first time, called them pigs, that being the nearest head. My child of two played for a week with the first orange that was given him, calling it a "ball." He called the first whole eggs he saw "potatoes," having been accustomed to see his eggs broken into a glass, and his potatoes without the skin. A folding pocket cork screw he unhesitatingly called "bad scissors." Hardly any one of us can make new heads easily when fresh experiences come. Most of us grow more and more enslaved to the stock conceptions with which we have once become familiar, and less and less capable of assimilating impressions in any but the old ways. Old fogysm is, in short, the inevitable terminus to which life sweeps us on. Objects which violate our established habits of "apperception" are simply not taken account of at all; or if, on some occasion, we are forced by dint of argument to admit their existence, twenty-four hours later the admission is as if it were not, and every trace of the unassimilable truth has vanished from our thoughts. Genius, in truth, means little more than the faculty of perceiving in an unhabitual way.

Personal interest. — In the third place, our apperception is unbalanced by our personal interests. To a degree which it is difficult to believe, our minds are shaped for the service of our selves. When our interests emphatically demand that we justify a *certain bit of conduct*, we will find a way of

looking at it that will afford the justification. But, on the other hand, if a person or a proposal is prejudicial to our welfare we will naturally enough apperceive them as in themselves evil. It is extremely difficult to see straight where our own interests are at stake. This is not because we are consciously selfish, but because the mental attitude, which is so large a factor in determining the meaning of a situation, is by nature built up around our own welfare as a pivot. This propensity we can, of course, never completely set aside; but we can at least cultivate a recognition of its influence, seek, so far as possible, to be impersonal in our estimate of the situation, and remember that the other fellow is perhaps less in the wrong than he seems, from our viewpoint, to be.

Emotion. — And finally, emotion may distort our apperception. As teachers we conceive an admiration for a certain textbook and forthwith close our ears to any arguments against it, nor will we hear sympathetically the case of its competitor. We develop a warm friendship for a chum and, in consequence, minimize his faults and magnify his virtues, nor will we believe any evil report which we hear about him. We become attached to some hero in politics or in history and immediately cast about him a halo, filling up with imputed worth whatever gaps our knowledge may have left. Little whispers to his discredit we simply refuse to admit to any consideration. "Love," particularly, "is blind." Even the vices and homely qualities of a sweetheart are so overlaid with a radiance projected from the mind of the lover that they become virtues and elements of beauty. On the other hand we conceive a prejudice against a man, and in whatever he does we find some unfavorable meaning. The mind here has taken a certain "set," and the slightest effort to disturb that "set" precipitates a flood of emotion, which makes balanced thinking impossible.

This emotional distortion is doubtless the most difficult

to correct of the obstacles to balanced apperception, but there is no reason why one should not, for at least moments of calm consideration, cultivate an impersonal view of the situation. Certainly the creeds and the heroes dear to one's heart can be made no less useful by being sanely viewed, and even love can, at least at certain critical intervals, afford to be tempered with discretion.

Summary. — The misunderstandings used to illustrate double apperception in this chapter have been chiefly historically famous ones, but the same explanation holds of those of everyday life. Seldom do differences arise that are not due to the presence of two different ways of apperceiving a situation, each largely legitimate. They would not arise at all, or if they did would be easily settled, if each party would remember that his view is probably only partial, and would try to place himself in the other fellow's position and see the matter from his standpoint. One should hesitate to consider his opponent a fool. After all, both common sense and sincerity are pretty evenly distributed. Even when a person is confessedly insincere his attitude has, from his own viewpoint, its justification. Our pessimism about the integrity and the sanity of our fellows comes largely from our own mental and moral poverty.

Influence of mood. — A significant application of this fact of differences in meaning of a situation when apperceived in different ways is the influence of our mood upon our view of affairs. Just as when we look through a colored glass all the world takes on the hue of the medium through which we look, so when we apperceive our world in a certain mood all situations take on a meaning influenced by that mood. Betts quotes the following illustration from the diary of a New England minister :

Wed. Eve. Arrived at the home of Bro. Brown late this evening, hungry and tired after a long day in the saddle. Had a bountiful supper of cold pork, warm bread, bacon and eggs, coffee, and

rich pastry. I go to rest feeling that my witness is clear; the future is bright; I feel called to a great and glorious work in this place. Bro. Brown's family are godly people.

The next entry was as follows :

Thurs. Morn. Awakened late this morning after a troubled night. I am very depressed in soul; the way looks dark; far from being called to work among this people, I am beginning to doubt the safety of my own soul. I am afraid the desires of Bro. Brown and his family are set too much on carnal things.

Compare, too, the following two ways of looking at a friend :

Your kindness, your sympathy, first drew
My heart to love you in those careless days;
And hero worship spread its roseate haze
About the real to make the fancied you;

* * * * *

I gave him love for love; but, deep within,
I magnified each frailty into sin,
Each hill-topped foible in the sunset glowed,
Obscuring vales where rivered virtues flowed.
Reproof became reproach, till common grew
The captious word at every fault I knew.
He smiled upon the censorship, and bore
With patient love the touch that wounded sore;
Until at length, so had my blindness grown,
He knew I judged him by his faults alone.

(Wieand)

Finding what we look for. — We really see, when we look out upon our world, a reflection of ourselves. The pessimistic man seems to himself to find ample objective justification for his pessimism, while the optimistic man finds equal justification for his optimism. For each apperceives in the outer world only that which is in harmony with his own mood. Henry Ward Beecher thus condemns the cynic :

The Cynic is one who never sees a good quality in a man, and never fails to see a bad one. He is the human owl, vigilant in darkness and blind to light, mousing for vermin, and never seeing

noble game. . . . Thus his eye strains out every good quality and takes in only the bad. . . . The livelong day he will coolly sit, with sneering lip, transfixing every character that is presented.

It is impossible to indulge in such habitual severity of opinion upon our fellow men, without injuring the tenderness and delicacy of our own feelings. A man will be what his most cherished feelings are. If he encourage a noble generosity, every feeling will be enriched by it; if he nurse bitter and envenomed thoughts, his own spirit will absorb the poison, and he will crawl among men as a bruised adder, whose life is mischief, and whose errand is death.

He who hunts for flowers will find flowers; and he who loves weeds will find weeds. Let it be remembered that no man, who is not himself morally diseased will have a relish for disease in others. Reject, then, the morbid ambition of the Cynic, or cease to call yourself a man.

Making allowance for mood. — One must make allowance for his mood if he is to trust his own estimate of a situation. For, apart from some habitual bias which characterizes one's conduct, such as those illustrated above, one does not form exactly the same estimate on two different days. An editor will not pass finally upon an important paper at one reading. He will lay it aside and go over it a second time, testing the correctness of his first impression with a subsequent one. One can not pass conclusive opinion upon a book or a piece of music at one sitting, for one is sometimes surprised to find the next day that he likes the things which he at first condemned, or condemns the things upon which his first opinion was favorable.

Control of mood. — *Control of physical condition.* — Can one do anything to control his mood? Doubtless he can do much. In the first place mood is not infrequently influenced by physical conditions. Dyspepsia, indigestion, a sluggish liver, poor ventilation, lack of exercise, or insufficient sleep are responsible for many a case of pessimism, while good health is a big factor in inducing good spirits. And these physical bases of the psychical tone one can ordinarily reach and improve.

Control of train of ideas. — In the second place, mood is determined by the ideas which are brought, through association, into consciousness. When association is working in such a way as to bring in a train of ideas of a certain kind, they keep one in a mood which accords with them. If, for example, one keeps thinking about his past misfortunes, and about future ones that he anticipates may befall him, this train of thoughts, together with its fringe of congruent associated ideas and feelings, constitutes a somber mood which will last as long as the trend of thought continues to run in that direction. So the only way to dispel the mood is to break up that particular system of ideas as the dominant ones in consciousness and replace them with a happier system. This one may be able to do by force of will. One may voluntarily set himself to a line of thinking and of acting which runs counter to that responsible for the undesirable mood. One may set to counting one's blessings instead of one's misfortunes, or one may prove his power to succeed, and get the renewed self-confidence and optimism which comes from success, by turning from moody forebodings to vigorous work. To the extent to which one can thus substitute for the mental content responsible for the unfortunate mood a different mental content, to that extent can one control the affective tone of consciousness.

Control of expression. — But, most important and feasible of all, one can control mood through controlling its expression. Professors James and Lange long ago pointed out to us that our emotions are due to the bodily attitudes into which we have been thrown. If some incident occurs to make us angry we are, by instinct, thrown into a certain bodily response. We clench our fists, grit our teeth, the muscles of the face and neck grow tense, there are changes in the breathing and in the circulation, and contractions of many muscles about the chest and abdominal regions. Now it is the feeling of these bodily tensions that constitutes

the emotion of anger. Similarly another situation will throw us into a state of slow and heavy breathing, cause a peculiar contraction of muscles about the heart, bring a "lump" into the throat and, perhaps, a flood of tears into the eyes, and we have, as a sense of this condition, our emotion of sorrow.

And so if one can put himself into the bodily attitude expressive of the emotion, and can really effect a contraction of the deep-seated muscles involved as well as of the superficial ones, he will experience the emotion. Any one, for example, can work himself into a rage by rehearsing to himself a quarrel which he expects to have with some one and by going through the motions expressive of this anger. Conversely, if one can completely inhibit the bodily expression of any emotion, internal muscular tensions as well as those of the grosser organs, he can repress the emotion itself. As Professor James says :

Refuse to express a passion and it dies. Count ten before venting your anger, and its occasion seems ridiculous. Whistling to keep up courage is no mere figure of speech. On the other hand, sit all day in a moping posture, sigh, and reply to everything with a dismal voice, and your melancholy lingers. There is no more valuable precept in moral education than this, as all who have experience know : If we wish to conquer undesirable tendencies in ourselves, we must assiduously, and in the first instance cold-bloodedly, go through the *outward movements* of those contrary dispositions which we prefer to cultivate. . . . Smooth the brow, brighten the eye, contract the dorsal rather than the ventral aspect of the frame, and speak in a major key, pass the genial compliment, and your heart must be frigid indeed if it does not gradually thaw.

Effect of expression on mood. — And what one says of emotion one would say also of mood, for mood differs from emotion chiefly in being milder and more prolonged, though it is also much less specific — that is, not directed toward any particular object. Here it is just as true as in the case of emotion that mood tends to follow expression. Walk

around with the head hanging forward and the shoulders drooping, and a feeling of depression and of lack of self-confidence will attend you. Go about with a physical bearing of coldness and distrust, and like sentiments will be almost sure to guard your soul. On the other hand, walk with head erect and shoulders back, wear habitually a smile and speak a word of cheer to every one whom you meet, and the mood which you are expressing will soon come to support the erstwhile voluntary expression. These moods, cultivated through the cultivation of their expression, will soon come to be fixed, too, through habit, and thus become permanent characteristics. Says Betts:

If there are emotional habits we are desirous of forming, what we have to do is to indulge the emotional expression of the type we desire, and the habit will follow. If we wish to form the habit of living in a chronic state of the blues, then all we have to do is to be blue and act blue sufficiently, and this form of emotional expression will become a part of us. If we desire to form the habit of living in a happy, cheerful state, we can accomplish this by encouraging the corresponding expression.

EXERCISES

1. The landlord of the Rainbow, in *Silas Marner*, in attempting to settle a dispute between two of his patrons, says: "The truth lies between you, you're both right and you're both wrong, as I allays say." Is that a safe assumption for a mediator to make? Why?

2. Why are there so many political parties, or so many religious denominations, in the world? Is it possible for more than one of these to be right?

3. Show that the influence of friends, exercised through suggestion, is an important factor in determining how one will view a situation. Name some other important factors.

4. Have you ever seen two persons, or groups of persons, differing radically on some matter and yet each clinging to his attitude at a sacrifice "for the sake of principle"? Can both be sincere? How? Give examples.

5. Can the ability to apperceive in a balanced and many-sided way be cultivated? How?

6. How does mood affect the ideas which come into your mind? Are these the cause or the effect of the mood? How can they be excluded?

7. Give examples from your own experience with music, literature, and companions to show that any one moment's estimate of their value is not to be wholly trusted.

8. Can you find exceptions to the principle that a mood can be cultivated by assuming the bodily attitude which normally expresses it? Can you find any way of reconciling these with the doctrine set forth in the text?

CHAPTER III

HOW OUR SENSES DECEIVE US—ILLUSIONS

Meaning of illusion. — In our last two chapters we saw how the mind always adds a meaning to the data which the senses present. In the first chapter our interest was in how, by this subjective addition, our world gets enriched; in the second we pointed out how this same fact causes misunderstandings, through one person bringing together the data into an object of one meaning and another into one with a different meaning. In this chapter we shall be dealing with the same principle, only here we shall see how the fact that the mind always supplies a factor may mislead us into taking the object for what it is not. This mistaking one object for another, due to misinterpretation of what our senses present to us, is called **ILLUSION**. An illusion is thus a false perception. Such false perception may result in very trivial or in very great distortion of the **given** object, but always the mistake results from the mind's supplying to the sense materials the incorrect supplement instead of the correct one.

Illustrations of illusions. — Binet gives the following account of a very vivid illusion in the experience of his friend :

One evening when he was walking alone in a country broken up by large woods, he perceived in a clearing a large fire lighted. Then, immediately after, he saw an encampment of gypsies around this fire. There they were, with their bronzed faces, lying on the ground and engaged in cooking. The night was dark and the place very lonely. Our young man was afraid, he lost his head completely, and, brandishing the stick he held in his hand, he dashed furiously into the gypsies' camp. A moment later he was in the

middle of a pond, convulsively clasping a tree-trunk with his arms, and feeling the chill of water which rose as far as his knees. Then he saw a will-o'-the-wisp flickering on the surface of the pond. It was this shining spot which had been the starting point of his sensory illusion.

Now whence came this completed picture of the gypsies' camp? From the same source from which normal perceptions come, except that the subjective factor was somewhat larger and certainly less carefully criticized. A meager datum presented the occasion and, out of a mind full of expectation, there was given the distorted meaning. The object was *apperceived* as more than it really was, just as the lines of a previous figure in being seen as a stairway were apperceived as more than they really were. Only in this case the mind was too ready to project the content which its own fears had prepared and hung it, in consequence, upon a rack which it would not fit.

A similar case is that of a servant woman who had married a widower above her class. Soon after her admission to the new home her nuptial bliss began to be impaired by insinuations from the children of her husband regarding her former station in life. Persistently when she passed she heard them whisper "servant, servant." At first the words were low and indistinct, and she could not be sure that the children were really uttering the hated epithet, but gradually they became so distinct that there could no longer be any doubt about it. The children were severely punished, but in vain. They only denied their guilt. Later it was discovered that they were right in this denial, for it was found that the bride suffered from an ear defect which gave repeatedly the effect of the sound "s-s." It was out of her expectant mind that she supplied the addition to round out this meager presentation into the despised word "servant," the illusion becoming stronger as her own suspicions increased.

Such illustrations could be multiplied without limit, and

they go only a little beyond what all of us are constantly experiencing. Every one has been surprised — and either disgusted or amused according to the circumstances — at his misinterpretation of simple situations. A dozen times

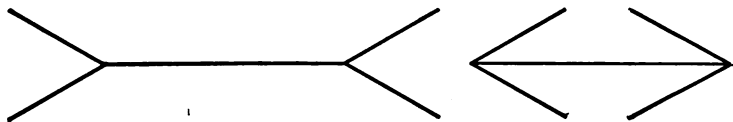


FIG. 11.

a day one momentarily mistakes a strange face for that of some friend of whom his mind is full. As one glances through the newspaper one stops breathlessly at some word which, for the instant, he has mistaken to be the name of some

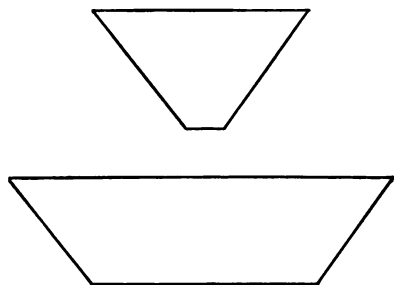


FIG. 12.

object in which he is particularly interested. Under cover of darkness a stump along the road is taken for a dog or a person, a hat and coat in a room are rounded out into a man, or a sheet or even a patch of moonlight supplies abundant materials for a ghost. All of these

are cases not of seeing what is not there, but of seeing wrongly what is there. We get these illusions not only from the sense of sight, but from all the others as well — *hearing*, — as where you think your name has been called

when the sound was something very different ; touch, — as where your finger is unknowingly placed upon a crumb and you take it to be a bug. Even also smell and taste each supply their many examples. We have become so accustomed to temporary misinterpretations and their quick correction that we fail to notice how full of illusions our daily lives really are.

Causes of illusion. — *Surroundings.* — Now what is the reason for all of this distortion of experience? How does it happen that many times every day we make false interpretations instead of true, even when the sense organs are in good condition and the external stimulus is in itself plain enough? Three reasons may be given. One of the most interesting, but from our standpoint least important, is the effect of the setting or surroundings of the misinterpreted object. Which of the lines in the preceding figures seems to you the longest?

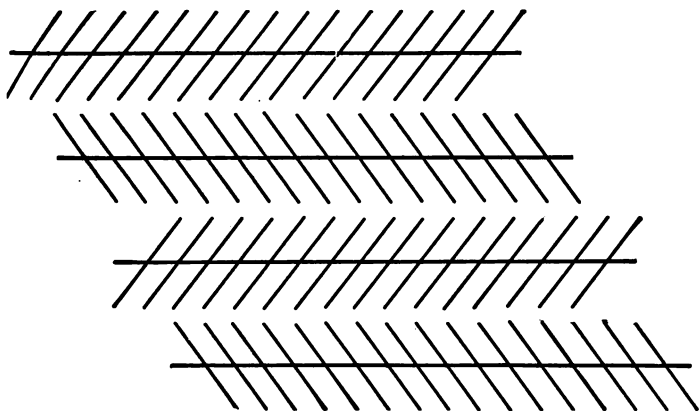


FIG. 13.

In each case they are exactly the same in length, though it is difficult to convince oneself of that fact without measurement. Look at the figure above :

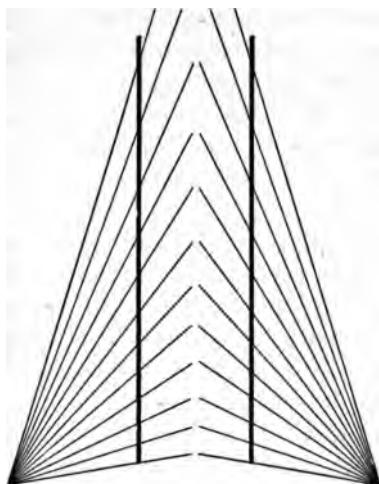


FIG. 14.

The lines are parallel, though they do not appear to be so. Look at figures 14 and 15 and compare their appearance with what measurement reveals about their regularity. In all of these cases we misjudge the object in the center of observation on account of the influence of its surroundings. The peripheral lines in the figure somehow mislead us. Other sensations than the visual give us similar illusions. A sound breaking in upon

silence appears louder than it is, and in quality is affected by its relation to other sounds. The apparent temperature of a room is greatly affected by that of the room from which we have come. Touch sensations, odors, tastes, are all modified by the setting in which they occur — by what we have touched, tasted, or smelled just before or just afterwards. We judge nothing by itself. Everything is taken in relation to other things — not only to our own past experience and our present mental state, as we have already seen, but also to the surroundings in which it occurs.

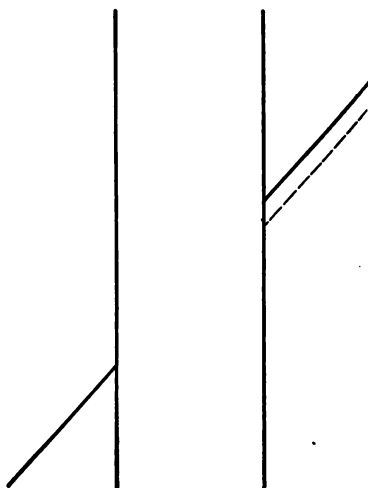


FIG. 15.

Habit. — But a more important source of illusion is custom, or habit. It is illustrated by the workings of a telescope. If you are acquainted with the arrangement of the lenses in this instrument you know that their only effect is to magnify the image which falls upon the eye. But in general when an object casts a large image upon the eye, it is because it is near. And so here you follow the usual method of interpretation, and see the thing through the telescope as near when it is in fact far away. Another interesting illusion of the same class is that of the train on which you are riding seeming to be in motion when it is really standing still. You get this illusion when another train is backing by yours, and it is intensified when trains on both sides of your car are in motion in the same direction. Here your whole field of vision, outside the car, is in motion. But ordinarily when your whole field of vision is in motion, it is because you are moving by it, not it by you. Hence here you follow your usual custom and feel yourself in motion. The only way in which you can dispel the illusion is to look down upon the ground, or other stationary object, and find that, with reference to it, you are at rest. The ventriloquist produces the same sort of illusion when he makes a sound such as would usually come from overhead or from the cellar, and the artist who paints a false drawer on a piece of furniture counts upon a like tendency. Indeed it is upon this that a large part of magic rests. A mode of interpreting certain activities has been worked out in the past, and when a situation which closely resembles these is presented, the customary interpretation spontaneously comes up. In ninety-nine cases it has been the correct one, and the connection between the impression and the response has become firmly established. In the hundredth case it is a false interpretation, but nature brings it forth because, on the whole, uniformity of response to similar situations is advantageous.

Expectation. — But, from our standpoint, by far the most important source of illusions is expectation. The illustrations given in the opening of this chapter were all of that character. One of the best-known illusions due to this cause is the “weight illusion.” If two boxes of different size, but of the same general appearance, are made of exactly the same weight, the smaller will appear to the senses much the heavier, and even when one knows that they weigh the same, one can not overcome the illusion. Similarly one will overestimate the weight of shot and underestimate that of crackers, and there is probably no one who could persuade himself that a pound of mercury lifted is no heavier than a pound of feathers. We expect the large object to be heavy and the small one light, and approach them with that attitude of mind. It is to this expectant mental attitude that the illusion is due. In like manner filled space seems larger than the same area of empty space, as the following figure will show :

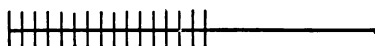


FIG. 16.

To hold so much content we think it should be bigger and forthwith proceed to see it as we feel it should be.

For the same reason accurate proof reading is a difficult task. We are so likely to see a word not as it is but as it should be. Thus if we come across the word reprint we are almost sure to accept it as reprint, without at all noticing the misspelling. And this tendency is increased in the proportion in which we are absorbed in the content of what we are reading. Books in foreign languages are invariably much better edited than those in the vernacular, because the proof reader, being less familiar with the words, is less likely to see them as they should be and more likely to see them as they are.

Hallucination. — When illusions are very pronounced — so pronounced that we experience a complete object when there is nothing present at all, or next to nothing — psychologists call them *hallucinations*. These extreme forms of misinterpretation are not met with every day, but yet there are many of them on record. It is said that about one person in every ten is likely to have had a fairly vivid hallucination some time in his life. Professor James cites the following case :

When a girl of eighteen I was, one evening, engaged with an elderly person in a very painful discussion. My distress was so great that I took up a thick ivory knitting needle, that was lying on the mantel piece, and broke it into small pieces as I talked. In the midst of the discussion I was very wishful to know the opinion of a brother with whom I had an unusually close relationship. I turned round and saw him sitting at the farther end of a center-table, with his arms folded (an unusual position with him), but, to my dismay, I perceived from the sarcastic expression of his mouth that he was not in sympathy with me, was not "taking my part" as I should then have expressed it. The surprise cooled me, and the discussion was dropped.

Some minutes after, having occasion to speak to my brother, I turned towards him, but he was gone. I inquired when he left the room, and was told that he had not been in, which I did not believe, thinking that he had come in for a minute and had gone out without being noticed. About an hour and a half afterwards he appeared and convinced me, with some trouble, that he had never been near the house that evening.

Binet gives an equally extreme illustration of the negative type of hallucination (systematized anæsthesia).

W— being in a trance, we suggested to her that she would not see M. Fere when she awoke, but that she would be able to hear his voice. Upon her awaking M. Fere places himself before her, she does not look at him, he holds his hand out to her, but she makes no gesture. . . . M. Fere then stands before the door. The patient rises, bids us good day, and proceeds toward the door. Just as she is going to put her hand on the knob she strikes against the invisible body of M. Fere. This unexpected shock makes her tremble; she makes a fresh attempt to go on, but, meeting the same inexplicable resistance, she begins to be frightened and refuses to renew the attempt. We seize a hat which is lying on the table and show it to the patient. She sees it perfectly well, and assures herself with her own eyes, as well as with her hands, that it is a real body. Then we place it on M. Fere's head. The hat appears to the patient as if it were suspended in the air. Words could not express her astonishment; but her surprise reaches its climax when M. Fere lifts the hat from his head and salutes her several times. . . . Then we take a cloak and hand it to M. Fere, who puts it on. . . . "It is," she says, "like an empty manikin." . . . The furniture moves, . . . the tables and chairs are overturned, . . . the things are put back in their places, a purse opens of itself and the gold and silver pieces tumble out of it and in again.

All of this is entirely inexplicable to the patient, who can not see at all the gentleman who is doing the business.

A less extreme instance is that of subjects whom Binet hypnotized and then showed plain white cards, suggesting that they were the subjects' portraits. Immediately they were seen as such with great clearness:

The subject . . . describes the pose and the costume, adding to the suggested hallucination with his own imagination, and, if the subject be a woman, she is usually dissatisfied, finding the portrait little flattered. One of them, who was pretty enough, but whose complexion was covered with little freckles, said to me one day, when looking at her imaginary portrait, "I have a great many freckles but I have not so many of them as that." These plain white cards the subject picked out of a pack even days after, no matter how

carefully the pack had been shuffled, and upon them still saw her portrait, upright, upside down, or lying horizontal, according to the position in which the card itself was turned. Evidently the completed portrait had been projected upon the little imperfections of the card as "nails," and this amazingly meager scheme had been generously filled out from the mind's own momentum.

Frequency of illusion. — These extreme cases are of course comparatively rare, yet they differ only in degree from illusions that are much more common. Instances could be found ranging by small steps from these on down to the most trivial misinterpretations. As Ladd says, "All perception is interpretation; and from partial or mistaken interpretation all degrees and kinds of illusions and hallucinations result." They are not, therefore, to be looked upon as the malady of only the abnormal. We, as normal persons, are continually subject to them, in perhaps mild but, for that very reason, subtle and dangerous forms, and must be on our guard against them. As Ladd again says, "In the normal waking life of the average individual a large but indefinite amount of illusion and hallucination enters into all his sense perceptions." Indeed there is no perception in which one does not go beyond the facts, supplying the greater part of the content out of his own brain, so that Taine goes so far as to say that "Perception is true hallucination," and Lotze that "The whole of our apprehension of the world is one great and prolonged deception." Surely the responsibility which the law of apperception places upon us, in requiring that we supplement the objective with a subjective factor, is no small responsibility.

Misinterpretation in wider field. — *Expectation.* — Illusion is technically confined to the misinterpretation of sense data. Yet there is a sort of illusion of a much broader character than that of the senses, and, without asking the consent of the technical psychologists, we shall include this broader field in our discussion. Not only simple sense data,

but every situation with which we deal, we are likely to apprehend in a false way, and under exactly the same conditions as those which give us sensory illusions. We find here what we expect to find, just as we do with sensible objects. The person who is looking for an insult will seem to find one in expressions that in themselves are innocent. One who is looking for scandal will misread the most harmless activities in a way to justify gossip. Indeed every speech or conversation which we hear, or book which we read, we are likely to misconstrue in exactly the same way as we misinterpret a word to make it conform to our mental image of what it ought to be. But this is to suffer a sort of intellectual illusion. In fact every one who sees his world with a bias, instead of just as it is, may be said to have an illusion. But how frequent — indeed how universal — this is we have already abundantly seen.

Rounding into symmetry. — Perhaps the most prolific source of illusion in this broader sense is found in our tendency to touch up every situation so as to make it aesthetically complete. We have already seen how one will take a meager datum and round it out into a complete object — and sometimes the wrong object. Thus a sheet is rounded out into a ghost, or the grating of a file into the sound of one's name. Now this same tendency holds universally. Without one's knowledge or intention one is disposed to round out every situation into symmetrical detail. Professor Münsterberg once gave a lecture on peace which aroused an auditor to an immediate, passionate reply. In describing the event one newspaper man said the professor stood, during the reply, white with anger; another that his face was livid with excitement. One said that he continually smiled; another, that he remained consistently grave. One held that the speaker walked violently back and forth while replying, while another wrote that he stood by the professor and patronizingly patted him on the shoulder. And yet

no one intentionally lied. Each supplied what his feelings of congruity in the situation demanded — thought he saw what he felt he ought to see.

An even more startling instance of how we distort the facts in the interest of making the situation symmetrical is the following. A meeting of eminent jurists, psychologists, and physicians in Goettingen some time ago was disturbed by a scene outside. Presently a clown and a negro rushed into the very room where the association was meeting, a tussle ensued in which one was floored, a shot was fired, and the two speedily left the room. The president, who had arranged the affair as an experiment unknown to the others, begged the members to write down very carefully what they saw, as he was sure the matter would come before the courts. Now, notwithstanding the fact that these men were all trained observers, these accounts showed the most surprising discrepancies. Only six among the forty did not make false statements, and in more than half of them ten per cent of the replies were wrong. Although the negro had nothing on his head, only four persons noticed this, the others assigning him a derby, a high hat, etc. He had white trousers and a black jacket, but red, brown, striped, or coffee-colored suits were invented for him. And yet these were eminent scientists preparing an account for the courts immediately after the incident had occurred. Now does not gossip originate and grow in this same way? At first it has a meager basis in truth, but, as it passes from person to person, it is touched up and rounded out into beautiful (?) symmetry until it has become incredibly different from its simple origin.

Applications. — What practical consequence does this psychology of illusion carry? In the first place it should do away with our "cocksureness." Infallibility is not among human probabilities. Even the surest testimony regarding incidents supposed to have occurred, or regarding the

personal identity of a prisoner, has been proven mistaken. A recollection of the liability of all of us to error should make us pause and reconsider.

In the second place it should make us careful in our observations. We should recognize our tendency to project something foreign into the situation, and look again to verify its presence. Or rather we would do well to look again to see whether what we tend to put there is not *absent*; that is, look to disprove our wishes — a hard thing for most of us to do. This is even more important in non-physical matters than in physical. Before you take what some one has said of you as an insult you can afford to consider it again to see whether you have not, out of your own prejudice, projected the offensive element into it. Before you take a word or a sentence to be a slur on yourself or others, make sure that you have heard it rightly, and before you pass on a slander be careful that you have not added a touch unconsciously to round it out into symmetry, for it is thus that slanders grow. Before you react on a vital speech, book, or doctrine, either to accept and apply it or to spurn it, consider it again — if possible from a new angle — lest you should have thrust into it a meaning concocted in your own imagination instead of finding its real essence. For prone indeed is the mind to outrun itself.

And finally it should make us charitable towards others. If others distort the facts so that we can not agree with them, we should remember that we also distort facts so that they can not agree with us. And yet each does it sincerely. There is a vast difference between a lie and an error. Too many of us lie, but all of us are subject to error, for we all see our world with a bias. We are therefore called upon to temper our own sureness, which we can do without sacrificing our self-respect; to guard against being carried away by the hasty conclusions of our friend, which we can do with-

out withdrawing our friendship for him; and to recollect that the apparently unwarranted attitudes of others are not due either to insincerity or to culpable stupidity, which we can do without giving up our disagreement with them.

EXERCISES

1. A college professor, who takes advantage of end-of-the-season bargains, read a newspaper headline as "GOOD HATS A QUARTER" when it really said "GOD HATES A QUITTER." Explain.

2. Do you recall having had any illusions to-day? If not observe yourself for fleeting ones during the next half hour.

3. How do you decide whether an experience was an hallucination, an illusion, or a true perception?

4. Why do witnesses often give contradictory testimony?

5. What is the effect of suggestion upon one's manner of observing or of describing a situation? Why are court witnesses not allowed to hear each other's testimony?

6. Do you see how a knowledge of the psychology of illusion might help one to guard against it? Could it completely overcome one's liability to illusion?

CHAPTER IV

APPERCEPTION AND TACT

Tact vs. Talent.—Talent is something, but tact is everything. Talent is serious, sober, grave, and respectable; tact is all that, and more too. It is not a sixth sense, but it is the life of all the five. It is the open eye, the quick ear, the judging taste, the keen smell, and the lively touch. . . . Talent is power, tact is skill; talent is weight, tact is momentum; talent knows what to do, tact knows how to do it; talent makes a man respectable, tact will make him respected; talent is wealth, tact is ready money. For all the practical purposes, tact carries it against talent ten to one.

Take them to the theater, and put them against each other on the stage, and talent shall produce you a tragedy that shall scarcely live long enough to be condemned, while tact keeps the house in a roar, night after night, with its successful farces. . . . Take them to the bar, and let them shake their learned curls at each other in legal rivalry; talent sees its way clearly, but tact is first at its journey's end. Talent has many a compliment from the bench, but tact touches fees. Talent makes the world wonder that it gets on no faster, tact arouses astonishment that it gets on so fast. And the secret is, that it has no weight to carry; it makes no false steps; it hits the right nail on the head; it loses no time; it takes all hints; and by keeping its eye on the weathercock, is ready to take advantage of every wind that blows.

Take them into the church: . . . Talent convinces, tact converts. . . . Take them to court: talent feels its weight, tact finds its way; talent commands, tact is obeyed; . . . Place them in the senate: talent has the ear of the house, but tact wins its heart, and has its votes; . . . Tact seems to know everything, without learning anything; . . . it never ranks in the awkward squad; it has no left hand, no deaf ear, no blind side. It puts on no look of wondrous wisdom, it has no air of profundity, but plays with the details of place as dexterously as a well-taught hand flourishes over the keys of the pianoforte.¹

¹ *London Atlas.*

Violent commendation of the fool in Shakespeare's "Twelfth Night" touches upon the heart of tact:

'This fellow's wise enough to play the fool;
And to do that well craves a kind of wit:
He must observe their mood on whom he jests,
The quality of persons, and the time,
Not, like the braggard, check at every feather
That comes before his eye. This is a practice
As full of labor as a wise man's art.

Nature of tact. — "Observe their mood . . . , the quality of persons, and the time" — this is the secret of tact. The blunderer blurts out his proposition with no other consideration than the content of his message viewed from his own standpoint. He merely throws it at his hearer. The diplomat, on the other hand, adapts his message to the circumstances which obtain in this particular case. He speaks not to abstractions but to men in the concrete — to men closed up on certain sides by moods and prejudices, but wide open and receptive on other sides. It was, you remember, by this adaptability that Paul, the great apostle to many different races and nationalities of men, sought success.

For though I be free from all men, yet have I made myself servant unto all, that I might gain the more. And unto the Jews I became as a Jew, that I might gain the Jews; to them that are under the law as under the law, that I might gain them that are under the law; to them that are without law as without law . . . that I might gain them that are without law. To the weak became I as weak, that I might gain the weak: I am made all things to all men, that I might by all means save some.

Moody and Lincoln and Socrates could adapt themselves to all sorts of conditions, and Jesus was preëminently able to make himself at home in any kind of company, no matter of what social class.

Two ways of being tactful. — But there are two ways to thus "observe their mood . . . , the quality of persons, and

the time." On the one hand, by feeling around, he ascertains the viewpoint of his companion and docile y agrees with him. He acquiesces in whatever opinion his partner of the moment may chance to express. Now he is on one side of the fence, now on the other. He praises or "knocks" a mutual acquaintance, thinks it is going to rain or is going to clear up, is religious or irreligious, radical or conservative, or whatever else the mood of his companion may require. Such pliable bipeds we all know. They are extremely affable — for the moment. But in the long run they are — disgusting.

But, on the other hand, there is a more constructive way of being tactful. It is entirely possible to "Observe their mood . . . , the quality of persons, and the time" and yet not drift, but work successfully toward a goal. A person who wishes to be thus aggressively tactful instead of passively so does not seek to know his partner's mental state merely that he may align himself with it, but that he may begin with it as it is and gradually remold it into that which he wishes it to be — that he may take it as a foundation upon which to build the substantial structure which he himself intends. His method thus is plastic, but his end is dynamic, purposeful, constructive.

Interest as conditions of constructive tact. — Now in this effort one must observe two conditions set by the laws of apperception. The first is to secure *interest*. Until one has got this it is useless to argue. What one says merely glances harmlessly off one's victim. For you remember our conclusion of earlier chapters that what the mind gets it must reach out after from within. There is no possible way by which one can *force* anything whatever upon the mind. When its interests point in one direction no merely external presentation in another direction can get itself heard. Unless the mind itself sees fit to turn to it and welcome it in, it knocks in vain. In proof of this you need only

recall those moments — which every one has experienced — when your attention was so firmly riveted upon some matter that even such strong stimuli as intense pain went unnoticed. They could not get into consciousness because it refused to be focused upon them. And when they did find an entrance, it was not merely because they were there but because your mind felt it worth while to reach out and take them in. He who would really reach a person must, therefore, somehow first get into the current of his interests.

And if he can do this he need have no fear that the person with whom he is working will remain passive. There really is no such thing as lethargy of mind. Persons who are indifferent to what is going on about them, men who are inattentive to a speech, pupils who are unconcerned about their lessons, are mentally active enough, but their activity is turned in some other direction than the one desired. One's mind is, in every waking moment, reaching out to learn something or other. It is always drawn up around some focus and, at that focus, is eagerly active in assimilating new experience. No one is mentally inert. Mind is always active, always dynamic, always reaching out its apperceptive tentacles for some material or other. Matter that succeeds in getting into this field upon which its searchlight is turned is triumphantly captured. That which stands outside of this field goes begging, however worth while it may be in itself. Such would be the fate of a teacher's presentation of an algebra lesson, or of an agent's effort to sell a book, when the intended victim's intellectual mouth was set for baseball stuff. Evidently the first thing to do is to get into the range of the victim's mental appetite.¹

Reconciling interest with purpose. — Here, then, is our diplomat's difficulty. He may not merely shove in his

¹ This is the psychological basis for that first step in instruction which the Herbartians call "Preparation" — that is, putting the pupil in the right frame of mind.

stuff upon a mind that is not reaching out his way. Yet he may not merely abandon his position and drift with the interests of his auditor, for that would get him nowhere. He wishes to gain an end — to do a bit of constructive work — to induce his hearer to think and act in a certain way. Evidently his only solution can be to get the master of the hunt, going on from inside the victim's skull, to turn his search spontaneously in our tactful man's direction. To drop figures, he must stimulate the mind to reach out for what he intends to present. He must, by question, by suggestion, by collateral information, remold the "apperception mass" of his auditor so that it will focus upon his material. You have seen such cautious approaches. The man in control began to talk about the thing in which you were then interested. Gradually he shifted from this to other matter nearer his point. As he went on he slowly filled up your mind with his own topic, and thus excluded all other topics, until your mind got to eagerly working in that direction, and you got actually hungry for more information along the same line. Then, in satisfaction of your own appetite, he presented his point. He was, you see, a practical psychologist. For he realized that to get a thing you must apperceive it, but that to apperceive it you must somehow be made to reach out for it from within. And nevertheless he had found a way of obeying this law of apperception, and yet doing a constructive bit of work. Such procedure psychologists have called by various names — creating interest, stimulating curiosity, rendering explicit a desired apperceptive system — but whatever it may be called it is always the same thing — building up what one already knows in such a way that the voracious hunger of the "apperception mass" may be concentrated upon some intended prey.

Doctrine of interest in pedagogy. — This doctrine, that all materials should be presented in satisfaction of a mental appetite on the part of the hearer, is the *doctrine of inter-*

2st, about which so much has been heard in pedagogy during the last two decades, though the rest of us can advantageously use it as well as teachers. Frequently it has been considered a flabby doctrine, and has been derisively called "soft pedagogy." But it is as hard-headed as any other sort of solid sense. It does not mean that one should drift with the whims of his auditors. One can conform to it and still do a thoroughly constructive work. For one first conceives a purpose, then begins to mold the "apperception mass" of his hearers, which is in itself capable of many different "sets," in such a way as to concentrate upon the desired data its ever active search for new materials to assimilate, and thus builds towards the realization of that overshadowing purpose. A presentation can hitch up with the interests of one's auditors and yet be constructive. Indeed this is the only way in which constructive work can be done, for bricks that are merely thrown aimlessly at a wall will most likely not settle into their proper places, but fall as broken fragments upon the ground; and thoughts that are unpsychologically hurled at men, however good they may be in themselves, will almost surely fall as empty jargon upon closed senses. Whether one is teacher or speaker or private advocate he dare not despise the interests of his hearers, for interest is not shallow and capricious, but, as Professor Dewey says, "a moving thing, a thing of growth, of richer experience, and fuller power."

Articulating new with old. — But the second thing which the tactful man must observe is so to present his materials as to make them "hitch up" with the experience of the hearer. He must speak, that is, on his hearers' own level and from their own viewpoint. Unless, so to speak, they can step into his shoes he can not touch them. No matter how carefully the mental appetite may have been whetted, by the advance preparation discussed above, if the promised food when presented can not be masticated,

satisfaction will not long be sought from it. The ever hungry mind will at once turn elsewhere to appease its craving. Or, to change the figure, the mind must reach out and grasp what it gets, and it can not reach over a chasm. One builds up one's mental possessions step by step. What is to be got must each time be the next element to what one has. For this whole doctrine of apperception is that each new presentation must be understood in the light of the past, and if that past is not sufficient to make the present situation intelligible, this situation must be so simplified that it becomes continuous with that past. People can not take in what is "over their heads," and they will not long continue to try to do so. You know how soon you lose interest in a book which you do not understand, and how quickly your thoughts go "woolgathering" when you can no longer follow the argument of a speaker.

Difficulty of conforming to this requirement. — It is, however, no simple matter to conform to this psychological exhortation. Even with a single individual it is difficult enough, for it is hard to see just what his viewpoint is. Salesmen who attempt to adjust their conversation to the level of their patrons, or who undertake to select books or music for them, often make the most embarrassing miscalculations. But it is far more difficult to obey this pedagogical law of knitting the new to the old when one is dealing with a group, as the teacher and the public speaker are. For then one must hitch up with traits which all the members of the group alike possess. But people differ so widely in interests and abilities that they have surprisingly little in common. What interests one will bore a second; what is too difficult for some will be too easy for others. Words that one would understand are unintelligible to another; the mental imagery to which appeal must be made, — of which we shall later hear, — differs from man to man; and the whole outlook upon life is as varied as the crowd is heterogeneous.

It is difficult to convince oneself how great the difference between persons in respect to the experience upon which a speaker may build really is. Students in Experimental Psychology sometimes measure this difference by making a list of the facts which all the members of a group know out of the whole number of facts presented. The percentage which they know in common always turns out amazingly small. I myself, in conducting this sort of experiment, submitted to a class of college students a list of an hundred words from which the following are taken :

infusoria	Les Miserables	Millet	ohm
intaglio	linotype	mitosis	parallax
Kepler's Law	logos	morgen	penepain
kilogram	Malthus Law	nada	Pestalozzi
kinæsthetics	metacarpal	natural selection	Polonius
kinetic	midiron	noi	pomology

In this list of one hundred words there were only eleven that no one out of the class of fifteen knew, and only two — *base hit* and *clearing house* — that everybody in the class knew. The others were known by approximately one to fourteen members and by an average of somewhat less than six. But the interesting feature was that no two words were known by exactly the same group. And yet these students were all in a college of liberal arts and had much more in common than, for instance, a group at a church or political meeting. How difficult it is to present materials that are worth while and yet within the apperceptive grasp of such a group, may easily be seen. The usual manner of meeting this situation in the schools is by such a system of grading as will make the class of as nearly equal ability and uniformity of interest as possible, and by supplementing the class teaching with individual instruction. In speech-making, unfortunately, the conventional way is too often to utter a flood of gush that has much sound and little meaning, and that hence strains nobody's apperceptive muscles, as you will readily see

if you will consider how little content there is to the popular addresses which you have heard. Yet constructive work, which still conforms to the psychology of apperception, can be done, but it requires tact and serious thought.

The teacher, the preacher, the debater, the agent, who conforms to these two laws of apperception, who concerns himself first to arouse the curiosity of his hearers and then presents his material on their level — in such a way that they can readily understand it — will be successful. He who neglects these psychological laws will inevitably fail.

Length of a work period. — You see, then, that for one to get properly at a problem takes considerable preparation. One's whole mental make-up must reorganize itself about this problem before one can adequately apperceive it. If one is not to think merely superficially he can not afford to be constantly flitting from one problem to another. To do so will inevitably make his dealings with all of them flabby. He must stay with one mental job until he has accomplished it. For when the "apperception mass" begins to accumulate about a certain focus it takes a little time for it to acquire its full working power. When one first sits down to a task one's mind seems scattered and ineffectual; the organization of consciousness is comparatively loose and its focus blunt. But, with a little time, it piles up into one dominant wave and centers all of its energy in this onward moving momentum. One gets completely immersed in his subject and works with maximum efficiency. Later, as fatigue begins to work its effect, this towering wave begins to disintegrate and consciousness must again sink almost to a dead level or be piled up in some other way. Careful investigation has thus shown that the best part of a school day is not its first period, nor the best part of a period its first moments. It takes a little time to get down to fruitful work so that, in each case, the optimum part is some one third of the distance on

from the beginning. If we represent the effectiveness with which one can work at different parts of a school day by a curve, rising as the effectiveness rises and falling as it falls, that curve would be something like the following, the dividing line representing the noon intermission :

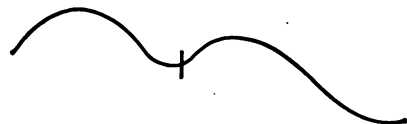


FIG. 17.

Teachers take advantage of this fact by putting the hardest studies in their program at the time of day when energy is at its best. But in another way too it can be made use of. For the same law holds also of single study periods. Here too it takes some time to get into the condition necessary for effective work. Here too fatigue lessens one's efficiency after too long a time. There is, therefore, a best length of time to stay by a given task. On the one hand it is uneconomical to flit hastily from one mental task to another. If one is to do his best work he must set aside a comparatively long period for a specific task, and, within that period, be undisturbed. No one can effectively study a lesson or read a book in snatches. No one can write a paper worth while a page at a sitting, nor can anyone do effective mental work of any kind whose attention is, from time to time, called away from that task. Each time one comes back to that task only to find his apperceptive laborers scattered, and must take too much time and energy in reassembling and reorganizing them. On the other hand, one can stay too long by the same piece of work. For after an hour or two — and in many cases in half of that time — fatigue has so benumbed one's mental faculties that he can no longer do effective work. Under those conditions it is wasted time to stay longer with that task. One will gain more by turning to some very different kind of work, which will call for the exercise of quite different faculties, and come back to the first only after the powers taxed have had sufficient time

to recuperate. Jack London tells of how he at first wrote long hours every day — sometimes even fifteen or eighteen hours continuously. But the work that he produced was wooden, and no publishers would accept it. Later he wrote for only a short period each day, but during that period was always fresh. In the writing of his major books and articles he made it a rule always to write only one thousand words a day — no more and no less. Thus he was deliberately adjusting the length of the period through which he stayed by a certain kind of work to that which favored maximum efficiency.¹



FIG. 18.

Copied from Starch's *Experiments in Educational Psychology*, by permission of the Century Company, by whom it was originally published.

Apperception and stupidity.

— *Difficulty in first approach to problems.* — Apperception

also explains away much apparent stupidity. Look in the accompanying picture for two frogs. You will probably have some difficulty at first in finding them, but when you have once found them they stand out ever afterwards in clear outline. You can thereafter so

easily find them because you have in mind a preperception of them. But another to whom you show the pictures may not have that preperception and, forgetting your initial difficulty and thinking only of their present clearness to you, you fail to understand why he finds the matter difficult. Just so it is with purely intellectual affairs. It is hard for us to appreciate the difficulties of others. However baffling the situation may have been to us when we first met it, after we have once seen through it it appears so simple that we can not see how it should afford difficulty to any one. A

¹ John Barleycorn.

teacher who has worked through a problem and mastered it is tempted to lose patience with a pupil who can not do a sum so simple. A man who has cleared up for himself a certain viewpoint becomes disgusted with the obtuseness of those who can not see its evident truth. After every invention men have said "Why, that is easy; why didn't I do that?" In the history of philosophy men floundered for centuries for the simplest truths. It took the Greeks two centuries to distinguish between mind and matter, and decades to develop anything like a complete form of the drama,—matters which come as the simplest of facts. But they are simple merely for the same reason that the frogs are easily found when we once have seen their outline—namely, because a definite way of looking at these things and talking about them has been handed down to us from our fathers.

A teacher's impatience.—I have seen many a teacher's efficiency crippled by this very fact—that she could not sympathize with her pupil's difficulties. If they could not at once get the point she put them down as stupid. To her, because she had been through it, it was perfectly plain and a few general comments grudgingly thrown at her wards—and these mostly above their heads—she thought more than enough to explain the matter to any dunce. A seventh-grade boy was once sent to me, by a young teacher, for punishment because he "would not" learn a certain selection from the "Vision of Sir Launfal." He complained that he could not learn it because he could not understand it. Upon examining the passage I found it intelligible enough to a scholar but really difficult for a twelve-year-old. After I had explained it to him word by word he understood it and then easily memorized it. When I protested to his teacher her only comment was that the selection was so easy that it did not require any explanation. It would be an excellent corrective to the pedantry of such a person if these supposed "dunces" were to ask her to find a concealed pic-

ture which they had already found, or solve a puzzle to which they knew the solution, or if they were to try to explain to her the construction of a machine which they knew and she did not. Measured by her own standard it would then be her turn to appear the simpleton.

Must point out what we wish to have seen. — Salesmen, under the pressure of economic necessity, have always acted on the principle here involved. They have not presumed that their intended customer would himself find the merits of their goods, but have themselves pointed them out. An agent will direct attention to the simplest features about his book or his machine, and the surprising fact is that these seem to come into existence just when he points them out. Otherwise they would likely be overlooked, however prominent they may be to one who already knows them. You should follow his example. The details, or the type of organization, which you would have one see in a picture, or the merits to be observed in music, you should take the pains to point out. The matter which you are attempting to explain you should remember is not as clear to your hearer as it is to you, and you should not be impatient about going over it in minutest detail. The outlook that to you is so perspicuous and sensible you should recollect may be as much a meaningless chaos to your fellow as the picture above was mere daub to you before you approached it with its outline in mind, and you should not expect him to catch it until you have explained it to him as to a little child.

And this is not because your fellow is more stupid than yourself. It merely indicates that you must stand ready to treat every situation which is new to your hearer in a way analogous to that in which you could help a novice to find the frogs — by condescending to trace in detail their outlines. After he has once formed, as you already have, a preperception of them he can see through them as readily as you now do, but before that time he can not be expected to do so.

EXERCISES

1. Cite cases which have come to your notice of success due to tact, and of blunders due to its absence.
2. Someone has said that tact is polished lying. To what extent is that true?
3. Give examples, from your own experience or from that of others, of the successful use of tact in the following situations:
 - (a) The delivery of an unwelcome message.
 - (b) Securing a contribution from a "hard case."
 - (c) Convincing someone of the value of a proposal to which he had been hostile.
 - (d) Administering a reprimand.
4. Does the tactful man make enemies? Why?
5. Suppose you were to give a talk to the sixth grade on pupil government, urging them to adopt a "school city." Plan how you would go about it.
6. How much knowledge and interest do the boys of your age in your Sunday school class have in common?
7. What do you find to be the effect of using a very short period for study? A very long one? What length seems best for you?
8. Have you ever experienced a case in which you overlooked many important facts until they had been pointed out to you? A case in which others seemed stupidly ignorant of facts, obvious to you, until you had specifically pointed them out? What lesson should this teach?
9. Show how a teacher should prepare her class for the proper reception of the lesson.

CHAPTER V

RACE APPERCEPTION — KEEPING OPEN- MINDED TOWARD PROGRESS

Tendency to preserve bias. — *Bias in the individual.* — Etiquette has long ago decreed that a man shall, as far as possible, lay aside his profession when he leaves his workshop or office and goes out among his fellows in a social way. But unfortunately most of us are unable to do this. On the slightest occasion we tend to slip back into our business outlook. The preacher, the physician, the teacher, must continually guard against "talking shop." All day long he has maintained a certain way of apperceiving life's activities and back into this outlook it is as easy for him to fall as for a body to drop from unstable to stable equilibrium. Our usual mode of apperceiving becomes a rut out of which it is difficult to stay. In spite of ourselves we can scarcely avoid seeing the world from only a single angle when we have once become accustomed to that angle.

And yet there are many checks to this domination of a single "apperceptive system" in any one individual. Coming in contact with men who have a different outlook, as such a one does, his own apperception can scarcely help being modified thereby. The fact, at least, that there are other ways of looking at the world is constantly thrust upon him. This frequent contact with one's fellows inevitably serves as a certain antidote to narrowmindedness.

Bias in the group. — But the danger of stagnation is greater where the fixed mode of apperceiving belongs to a compact group than where it is only of the individual. For

where a group has a certain attitude in common this check to one-sidedness is less effective. One is disposed then to hunt out the members of his group and fraternize with them, instead of having his bias corrected by rubbing up against men of different outlook. Thus, instead of being broadened by his association, he is confirmed and strengthened in his narrow mode of apperceiving the situation in question. And so the bias of the closed group tends to grow continually by cumulation until the members of the group lose sympathy absolutely with those outside of its own bounds. Thus the Democrats, or the Socialists, or the Anarchists, or the members of a certain religious sect, get together and reiterate to each other their common views until their mode of apperceiving the problem becomes so predominant in their minds that they can not conceive how any one could sincerely look upon it in any other way.

Such group bias is inevitable. When all with whom we associate think in a certain way they exert a tremendous force upon us to draw us into the same outlook. By their looks of approval or disapproval, by their suggestions, or by their arguments they coax, bump, pull, and twist our "apperception mass" until at length it settles into such equilibrium as is in harmony with theirs. And then, of course, since one's mental attitude is so large a factor in determining what one shall find, we see as they do.

And yet even such group is not without complementary suggestions. For the members of no such group are so isolated that they come in touch with no one who has a different viewpoint. That there are other ways of regarding the situation in question is, from time to time, thrust upon them by inevitable contact with men outside their own class. This fact can scarcely help tempering, in some degree, their onesidedness.

Bias in the age. — But when a mode of apperceiving a situation is characteristic of an age, rather than of one out

of many contemporary groups, the difficulty of avoiding stagnation is far greater. For here the check to one-sidedness is most feeble. In fact such check is then almost entirely absent. The whole tendency is centripetal — toward the center. All have inherited from their ancestors the same outlook, by their mutual association they all confirm in each other this outlook, and together they transmit it as an inflexible heritage to posterity. Thus the whole social fabric weighs down upon any tendency to change. From the dawn of life to its close wherever one walks, with whomever he talks, whatever he reads or hears, all pelt away at his "apperception mass" to batter it into the conventional mold. If, as Professor James says, "Old fogysm is the inevitable terminus toward which life sweeps us on" as individuals, much more so is racial old fogysm the goal toward which time drives on society. A Chinese stagnation is not an exceptional tendency — a caprice of the Oriental nations. It is the normal drift of all nations, and from it a small minority has, in all progressive countries, saved us at the cost of infinite suffering and self-sacrifice.

Conservatism of society. — The masses always drag back toward the common center. They not only can not themselves spontaneously change their outlook — shift themselves to a new angle of apperception — but they try to restrain the individuals in their group who have the freshness and the daring left to venture it. Emerson says:

Society is everywhere in conspiracy against the manhood of every one of its members. Society is a joint stock company, in which the members agree, for the better securing of his bread to each shareholder, to surrender the liberty and culture of the eater. The virtue in most request is conformity. It loves not realities and creators, but names and customs.

That outspoken German individualist, Nietzsche, protesting against this inertia of society against moving out of its rut, *distinguishes* between the good man — the man who *merely*

preserves the already formulated institutions of society — and the hero — the man who lifts society to a higher plane. He says :

The noble one wisheth to create something new and a new virtue. The good one willeth that old things should be preserved.

And this noble one — this hero — he cautions :

Thou compellest many to relearn about thee ; that is sternly set down unto thine account by them.

And so it happens that very few — only the most courageous of men — can continue to cling to their ideals of changing and thus bettering social institutions. Says this philosopher again,

I also have known noble ones who lost their highest hope. And then they slandered all high hopes. . . . Once they thought of becoming heroes ; men of pleasure they are now. A hero is a grief and a horror to them.

Conservatism due to apperception. — But it is easy to be too severe on the conservative elements of society. Their stagnation does not necessarily arise out of intellectual and moral indolence. Conservatism comes rather as an inevitable result of the law of apperception which we have been studying. It is in consequence of the fact that our minds tend to settle into accustomed “apperceptive systems,” and that these apperceptive systems replace rival ones, shutting us up to conventional viewpoints, and making it impossible to see matters from any new angle. How this works a few illustrations will make clear.

I am acquainted with an old professor of Philosophy who sees in every question put to him some already familiar purport. No matter what the inquiry is he takes out of it the meaning of some question asked him many times before, and runs off the same answer as he has been in the habit of giving. It is needless to say that in this he distorts the sense of the inquiry in such a way that he does not answer

at all the question actually asked. Now why is this? It is simply because he has passed the age of mental freshness and originality, and his mind is able to take on only certain already developed "sets." Every question throws him into one or another of these fixed attitudes and he replies accordingly. His modes of apperception are crystallized in such a way that justice can not be done to any new problem. He can see in the new only such old meanings as his mind, in its spontaneous stage, has been organized to find.

The Jews persecuted Jesus because they apperceived in his teachings impiety. Their modes of religious thought had become crystallized, so that any mention of religious matters threw them into a certain clear-cut and unambiguous attitude. Whenever they turned to think of religious problems their "apperception mass" gathered about the appropriate focus in the long accustomed way, and they could hence find in the matter only the old meanings. They could not fit together their knowledge of religious affairs in such a way as to function in any but the old direction. And so, in this case, they could not shift their viewpoint in such a way as to grasp the fuller purport that the Master was endeavoring to set forth. And looking in the situation only for the old, they found some of its usual elements absent without finding the compensation that the newer and truer synthesis would have involved. In consequence they failed to appreciate his message just because they could not recast that inner, subjective factor which is half of every truth.

All-pervasiveness of this inertia. — Every reform that you can name has been subject to just this sort of thing. It has been seen either as something old or has not been seen at all, and yet the self-righteous old conservative, assuming a patronizing air toward the reformer and a sarcastic smile, has reckoned his own stupidity as poise and astuteness. So easy is it for the mind to drop back into its old mold; so

hard to gather itself into a new ! To do the latter requires effort, and effort, especially psychological effort, we do not make unless we must.

How pronounced is the tendency to cling to established conventions the slightest consideration will show. Valuable new inventions have been treated either with indifference or with open hostility. The steamboat, the telegraph, and the telephone were indulgently smiled at as toys. The linotype, the harvesting machine, and the power loom were the occasion of many riots in which numbers of each were destroyed in the interests of preserving the old methods. In politics the principle of popular government and the equality of all persons came slowly with prolonged agitation. In science the new discoveries of Copernicus, Galileo, and others won their way against strenuous opposition. In education progress has been persistently opposed, not only by those outside of its sphere, but even by parents and pupils who were in a position to feel most directly the value of the newer methods. In religion Protestantism had a long and fierce battle for recognition, while the present readjustment is meeting with no less — though somewhat different — antagonism. Surely the way of the reformer is hard.

Conservatism among primitive men. — In earlier days resistance to change was even greater. The primitive man had never thought of any further justification of his practices than "It is our custom." Indeed so impossible was it for him to look at a question in any other than the old ways, that he thought it absurd to ask for any further justification. Travelers among such primitive people tell us that if they ventured to press the question "why" the savages only laughed at them as fools. "Our fathers did it and we do it" was enough for them. To such an extent was he carried on by the momentum of the past that the savage not only sought no new methods, but refused to adopt these when shown to him.

Fire sticks were used in the ceremony of circumcision after stone implements became known. . . . A Hottentot priest would use a sharp splint of quartz rather than a sharp knife in sacrificing an animal, or in performing circumcision. Tylor relates that the Dyaks of Borneo, when shown a more efficient manner of chopping wood with a V-shaped cut, not only refused to adopt it, although admitting its advantage, but fixed a fine upon anyone who should employ the new method. Everything not sanctioned by custom was taboo, and the only crime in primitive society is transgression of custom, the normal consequence of which is death or exclusion from the tribe.¹

Conservatism an instinct. — The all pervasiveness of this resistance to change, and particularly the fact that it seems to become stronger as you go back through history, suggests that it may have an even deeper basis than the psychological one outlined above. And so it has. Ultimately it rests upon a biological basis. Even the fixed habits of apperception, to which above we attributed intellectual stagnation, are no mere accident. There is a reason why our "apperception mass" is more disposed to settle into the old mold, and thus commit us to a single outlook. And the reason is the same as that which holds us to the beaten path even in mechanical action as well as in thought. This ultimate reason is to be found in instinct, worked out by nature to meet the conditions of a lower existence, and still clinging to us as a relic of that early stage.

Value of conservatism among lower animals. — Much that we do is to be explained by going back to the earlier forms of life out of which man has sprung. Thus we are afraid in the dark, we grit our teeth when angry, we faint when very much shocked, etc., not because these acts are now reasonable, but because we have inherited them from simpler forms of life where they really were useful. And if we are now to understand them properly we must go back to their origin and study them there — among the savages

¹ Ames' *Psychology of Religious Experience*, pp. 5, 6, and 61.

or even among the lower animals. And so we must with this instinct of resistance to change. It goes back far beyond civilized man for its start. It does not begin even with the savage. In fact the further back you go the more pronounced it is. In the case of the lowest forms of life nature has so narrowed the activities of her creatures that they respond with machine-like regularity to stimuli. Given a certain excitant you can predict with mathematical accuracy the result. Thus if you put a drop of acid near an amoeba, you can know in advance exactly in what direction the little animalcule will move. Higher up there is somewhat more spontaneity, but the uniformity is always a predominant feature. The moth will fly back into the flame time after time, the deer will hunt repeatedly the old pathways, and the rabbit will seek again her former haunt, even to their own detriment. And yet nature has made no mistake in this. For, though fatal under certain artificial conditions, this uniformity is on the whole beneficial. Capricious departure from these regular modes of response would be even more fatal, for acting in a new way the creature would be extremely likely to fall into some death trap. And so, by the law of the survival of the fittest, these reactions have come to be selected as the best through long experience, and nature has wisely fixed them as deeply ingrained instincts and set up strong barriers against the creatures' deviating from them even in the smallest degree.

Value in primitive society. — And as it is in animal life so it is in the life of primitive man. Departure from the old ways was dangerous. It tended to make the group less of a compact unit, and thus weakened its power of defense against its enemies. Whoever ventured to depart from the conventions of the tribe threatened both his own safety and that of his people. The beaten path was safest; and, where the struggle for existence was so intense as it was in savage life, nature could tolerate only the safest. It was, therefore,

as a matter of necessity in both subhuman and human forms that this instinct of conservatism was developed — an instinct so strong and clear-cut that the whole group would turn upon the members who departed from custom and ruthlessly destroy them. It is a survival of this old instinct that still makes us pause, with a certain palpitation of the heart, when we depart even a little from the beaten path.

And so we should not complain about this instinctive dread of change. On the whole it has been absolutely necessary to the preservation of the race. And if it now retards progress it is only because it, in common with many other instincts, has overshot its mark — has persisted in a setting where it is no longer useful. Nature has given man the counterpower to overlay it and tone it down with reason. If he does not use this but permits himself to drift back on to the level of brute instinct, he only forfeits his right to be called a man.

Emotion as sentinel. — But this is a recipe more easily given than obeyed. For where change is in question our emotions flood in and warp our judgment. There is nothing else that stirs us emotionally so certainly or so deeply as to face a vital readjustment. In fact nature gave us our emotions for this very purpose. Change was, in the lower forms of life, biologically so dangerous that nature was obliged to give us this ever alert sentinel to pound on our hearts in warning when we were tempted to venture into a new pathway, lest we should do it too lightly. If you will think for a moment you will notice that accustomed acts are performed without a tremor of emotion, no matter how consequential they really are. The trained hostler drives through an intricate maze as calmly as you walk through an open field. The trained chauffeur, the experienced general, the old public speaker, are strangers to nervousness. The man who is habitually generous, or habitually self-sacrificing, feels no emotion over an act of generosity or of self-sacrifice. He takes it as a matter of course.

But, on the other hand, when we turn to anything new, our feelings are all stirred up. When we first walk across a narrow footlog, or ride a bicycle, or drive a motor car, or make a speech, or perform some act of generosity or self-sacrifice, our whole inner anatomy seems rent with emotion. Nay, even when we turn to the most trivial matter, or undertake the most insignificant change in the manner of going at our work, a certain emotional tension grips us. For the old lines of conduct there are adequate channels already broken, and our energy flows unhindered through them, so that the whole act goes off almost mechanically, and involves no stirring of the soul. When, however, we undertake some new thing, the problem is very different. Here there are no channels already broken, and a painful tension is necessary before such channels can be plowed. One's whole nature must be wrought up to high pitch to carry out effectively the unusual demand, and a sense of this unusual tension constitutes emotion.

The prick of conscience. — Now it is this emotional stirring that makes men shun the new. It is painful. Biologically it is a danger sign, for it is an indication of that nook where disaster is so likely to lurk — an untried path. And alarmed by it men tend to sink back into the old routine, where they can drift quietly and with a complacent sense of safety. And it must be remembered that this emotional weight bears down as effectively upon new ways of thinking as upon new ways of acting. It opposes all change; it sanctions all conservatism. The "apperception mass" can slip back into its old type of organization with complacency. It can reshape itself into unaccustomed forms only with pain, and a certain disconcerting sense of restlessness. But most persons take the emotional complacency of the accustomed rut, when contrasted with the vague but startling restlessness of the new pathway, as rational conviction instead of the indolent persuasion which it really is. A certain pang of

conscience is always attached to the new departure; which makes one feel somehow irreverent and disloyal in acceding to it. But every student of the problem knows that this prick of conscience is no indication whatever of the merits of the situation. It is an unrest that attaches to the new merely because it is new. It is felt no less by the former "tough" when he first participates in the Lord's Supper than it is by the "tenderfoot" at his initiation into the revels of the bar-room. The inertia is merely psychological or biological, and not logical or moral—the voice of the serpent lulling one into a disgraceful lethargy rather than the binding utterance of God. In explaining the conservatism of the vestry of St. John's Church in "The Inside of the Cup" Churchill says:

Most of them had an uncomfortable feeling that Hodder [the progressive pastor] was somehow right—a feeling which they sought to stifle when they reflected upon the consequences of facing it. For this would mean a disagreeable shaking up of their own lives. . . . They wished heartily that the new rector, who had developed this disquieting personality, would peacefully resign and leave them to the former, even tenor of their lives. . . . The trouble was that they could not continue to listen to him with comfort.

Progress as duty. — *New solutions for new problems.* — But if a psychological inertia holds man to conservatism, an ethical obligation commits him to progress. Counter to this blind resistance to change there runs a rational interest in progress. In fact it is onward and upward that man's higher nature looks, instead of backward.

. . . through the ages one increasing purpose runs,
And the thoughts of men are widened with the process of the suns.

Indeed if either the individual or society is to be true to its function, it must be constantly advancing. Each generation receives from the preceding a bigger heritage upon which to build than its predecessor had. Even the same problems it would be expected to solve differently—and better. But

it does not have the same problems. It has different and bigger ones which are only on the surface duplicates of the ones with which the fathers dealt. And the old solutions can not be made adequately to stretch over these larger problems. We must stand in this age upon our own feet, just as our fathers in their age stood on their feet. We must face our problems squarely and deal with them on their own merits. Our unique tasks we must meet with unique solutions. That means, put psychologically, that we must free ourselves as much as possible from an inherited apperceptive bias, and shake our "apperception mass" into such a new equilibrium as is adequate to the new situation. We must therefore disregard the emotional resistance to facing fairly a new problem, spoken of above, and, as Browning says, "Think, nor account the pain."

True loyalty. — We can not otherwise come up to the standards set by our fathers. The old Chinese had the feeling that to be true to their fathers they should be careful never to outdo them, but either do their work exactly as they did or a little short of as well. And even here in America we have all met persons who feel that it would be somehow irreverent to reformulate the creeds or to change the fundamental institutions which our fathers built up, even though conditions have radically changed since their time. A better loyalty would be to try to understand their spirit and apply it to the present — to ask ourselves how, if they lived at this time and had available the wider knowledge of the present, they would have acted. If we are to be intelligently loyal to them, we can not do it by taking over their beliefs, practices, and institutions just as they left them. Our loyalty must take rather the form of appropriating their ideals, of imitating their faith and their courage, and of attacking our own larger problems in the same heroically independent spirit in which the best of them attacked theirs.

Worshippers of light ancestral make the present light a crime ; —
Was the Mayflower launched by cowards, steered by men behind
their time ?

Turn those tracks toward past or future, that make Plymouth Rock
sublime ?

They were men of present valor, stalwart old iconoclasts,
Unconvinced by axe or gibbet that all virtue was the Past's ;
But we make their truth our falsehood, thinking that hath made us
free,

Hoarding it in mouldy parchments while our tender spirits flee
The rude grasp of that great Impulse which sent them across the
sea.

New occasions teach new duties ; Time makes ancient good uncouth ;
They must upward still and onward, who would keep abreast of
Truth ;

Lo, before us gleam her camp fires ! We ourselves must pilgrims be,
Launch our Mayflower, and steer boldly through the desperate
winter sea,

Nor attempt the Future's portal with the Past's blood-rusted key.

Need balance between progressivism and conservatism. —

But if one is to take his place in promoting progress he must do more than estimate lightly the emotional drag against new methods of thinking and acting. It is not sufficient that he overcome his instinctive antipathy against change. For change in itself is in no sense superior to permanence. Indeed the established should have the preference unless there is a sufficient reason for modifying it. For all change is not necessarily progress. There is even more danger in excessive radicalism than there is in excessive conservatism. For ultra-conservatism can at most leave us where we were ; it can not well bring disaster. But radicalism may at any moment plunge us into irretrievable ruin. He, therefore, who would do his part as a thinking member of society must learn to be fair both to the old and the new. He must learn to apperceive in a balanced way both that to which he has become accustomed and the new propositions that each day

brings forth. And to treat with fairness and with balance the problems of successive periods of time demands the same sort of self-discipline which we have seen that effective coöperation with one's fellows in any one period requires. One must be conscious of the fact that a situation changes in significance as it is apperceived from different viewpoints, and must deliberately cultivate the ability to shift from one of these viewpoints to another. He must, of course, seek the necessary information — including a sense of the trend of history — and, in addition, must strive for many-sidedness, for flexibility, for broad sympathy.

But after all, while there have been men — like Rousseau and the French Encyclopedists — who could not apperceive sympathetically the institutions of the past and the present, yet, for reasons which we have now sufficiently developed, it is a far more difficult problem to be fair to what should be the institutions of the future. One must then, to be sure, squarely face the value of what we already have and build upon it, but one must also, if he is to be in fact what he is in name, — “a rational animal,” — seek to appreciate and further progress.

If more would act the play of Life,
And fewer spoil it in rehearsal;
If Bigotry would sheathe its knife
Till good become more universal;
If Custom, gray with ages grown,
Had fewer blind men to adore it —
If Talent shone
In Truth alone,
The world would be the better for it.

The chambered nautilus builds its shell in a spiral of successive chambers, always living in the last one. In an immortal poem, of which we quote the last three stanzas, Holmes sings its praise as the type of creature always ready to advance to a new and higher level:

Year after year beheld the silent toil
That spread its lustrous coil;
Still, as the spiral grew,
He left the past year's dwelling for the new,
Stole with soft step its shining archway through,
Built up its idle door,
Stretched in its last-found home, and knew the old no more.
Thanks for the heavenly message brought by thee,
Child of the wandering sea,
Cast from her lap, forlorn!
From thy dead lips a clearer note is born
Than ever Triton blew from wreathèd horn!
While on mine ear it rings,
Through the deep caves of thought I hear a voice that sings:—
Build thee more stately mansions, O my soul,
As the swift seasons roll!
Leave thy low-vaulted past!
Let each new temple, nobler than the last,
Shut thee from heaven with a dome more vast,
Till thou at length art free,
Leaving thine outgrown shell by life's unresting sea.

So it is and must be always, my dear boys. If the angel Gabriel were to come down from heaven, and head a successful rise against the most abominable and unrighteous vested interests, which this poor old world groans under, he would most certainly lose his character for many years, probably for centuries, not only with upholders of said vested interests, but with the respectable mass of the people whom he had delivered. They wouldn't ask him to dinner, or let their names appear with his in the papers; they would be very careful how they spoke of him in the palaver, or at their clubs. What can we expect, then, when we have only poor gallant blundering men like Kossuth, Garibaldi, Mazzini, and righteous causes which do not triumph in their hands; men who have holes enough in their armor, God knows, easy to be hit by respectabilities sitting in their lounging chairs, and having large balances at their bankers? But you are brave gallant boys, who hate easy chairs, and have no balances or bankers. You only want to have your heads set straight to take the right side; so bear in mind that majorities, especially respectable ones, are nine times out of ten in the wrong; and that if you see a man or a boy striving on the weak side, however wrong-headed or blundering he

may be, you are not to go and join the cry against him. If you can't join and help him, and make him wiser, at any rate remember that he has found something in the world which he will fight and suffer for, which is just what you have got to do for yourselves; and so think and speak of him tenderly.

HUGHES, in *Tom Brown's School Days*.

EXERCISES

1. A show window, displaying curiosities, contained a pair of shoes of the 1897 model, having extremely long and narrow toes, and beside them a pair of the 1882 model, with toes just as abnormally broad. Both seemed appropriate in their own day, but both look ridiculous to-day. Why?

2. Are there fashions in thinking as well as in dressing? Why?

3. A prominent philosopher remarked that the fact that many persons hold a certain opinion is ground for distrusting it, and that the few men who differ from the masses are likely to be right. Is this true? Why?

4. Does society ordinarily move forward spontaneously or does it wait at each step for a prophet? How does society treat these prophets?

5. Are there unnamed prophets who deserve, but never — even after death — get, credit? What happens to the "near-prophet" — the one who advocates a cause that never wins? (See Mackenzie's "Manual of Ethics," page 355.)

6. Compare the social value of the radical progressive and the conservative.

7. Is Nietzsche's distinction between the good man and the hero a correct one?

8. Do you experience an uncomfortable feeling when a well-established convention is ruthlessly condemned in your presence? Why?

9. After a reform do conditions remain on the level to which they have been raised, do they continue to advance, or do they tend to degenerate into artificiality? Illustrate.

10. Can you name any reform movements of the present which are opposed chiefly because men are unwilling to adjust themselves to a new order?

11. Is the author correct in holding that we can be really loyal to our fathers only by sometimes setting aside their express directions (as in the case of political policies or of religious creeds)?

12. Do you believe that you are able to do justice to "radical" proposals?

CHAPTER VI

HOW WE SOLVE OUR PROBLEMS — CONSCIOUS USE OF HYPOTHESES

Employment of hypotheses demanded for effective problem solving. — A famous hunter tells us that when a boy he once succeeded in shooting a bear by “aiming at him generally.” The success of this boyish incident was a cause for jest in his old age, because it contrasted so strongly with the method of his riper experience. As a mature hunter he would have hoped for no success from such “general” procedure. Yet many of us attack our problems in just that way. We stand and gaze at them in the lump, as if we hoped that the element that is first to be taken hold of would, after a while, call out — “Peep, here I am.”

The difference between success and failure in the solution of puzzling situations lies almost entirely in the method of attack. A machine is out of order. One sort of man will walk all around it, look it over in a dazed sort of way, shake each of its parts, and possibly by chance and after long searching, may find the seat of the trouble and correct it. A crime has been committed; he will walk around the scene of it, biting his lips and straining to think how to catch the guilty party — and he has one chance in a thousand of succeeding. Or a lesson is to be studied, a paper to be written, or a mathematical problem to be solved; our friend will plunge planlessly into it, hoping to earn his success by the sweat of his brow — and luck may possibly reward his efforts.

But another sort of man will go at the matter in a very different manner. He will examine the machine in but

few places, yet, for some mysterious reason, the trouble is found lurking in one of these few even more surely than in the many which our friend above investigated. He will look hastily over the scene of a crime and go back to his office, but strangely, within a few hours, he will be able to tell just what has happened and lay his hands upon the culprit. Or he will sit down to his lesson, his paper, or his problem and they will fall apart for him as if by magic. He seems to have peculiar luck, every time he thrusts in his thumb, to pull out a plum. Why is this? It is merely because our second friend does not approach his puzzling situation empty minded but with certain hypotheses, that is guesses, in mind about it. How this works a number of illustrations will make clear.

Illustration of use of hypotheses. — *Practical.* — You go into the back yard and find the limb of a valuable tree broken down. Interested in finding out the cause for the damage, you will at once proceed to set up and try out a number of suppositions — that is, guesses or hypotheses. First you will probably assume that a storm has broken it down. In testing this hypothesis it will occur to you that there should be other indications of the visitation of a storm — fences broken down, débris scattered about, etc. — and for these you will look. You will also consider the presence or absence of direct confirmation of a storm — the probability of your having heard it, reports from the neighbors, etc. If all these conditions of a storm are present, and fit together, you will probably be satisfied with that as an explanation, but if not you will make another supposition and try it out. You will suppose, let us say, that it has broken down of its own weight, or that some animal has pulled it down, or that a mischievous boy has done it. Each of these suppositions, if true, would necessitate certain attendant conditions which, in running them down in turn, you will find either present or absent. If present they strengthen the

hypothesis; if absent they weaken it, and, unless found not to be really necessary attendants, disprove it. If no hypothesis will work, the incident remains unexplained; if two or more seem to work, the one which is supported by the largest number, and by the most vital, of confirmatory evidences, and in which, at the same time, the elements fit together most harmoniously, is accepted.

Or you miss your purse. How will you proceed to locate it? In exactly the same way as in the above case. One after another supposition will be tried out, and the most probable of these will be investigated. First you will fear, perhaps, that some one has stolen it. But who? Jones? He would have had access to it, it is true, but conditions were such that he could not possibly have got away with it without being detected. Johnson? But he could have made no use of it. It contained, as Johnson well knew, only matter which he could not possibly have used without being caught. Stokes? But his character is such as to put his taking it out of the question. Yet these were the only persons who could possibly have stolen it. The hypothesis that it was stolen must, therefore, be given up. Next you assume that you mislaid it somewhere. It occurs to you that you may have put it in the pocket of a certain coat. But you recollect that you recently pressed that coat, and hence it could not be there. Then you suppose that you left it at the store where you made your last purchase, or that you laid it on your desk, or that you dropped it on the street, and thus you proceed by setting up and examining one hypothesis after another until you find the correct one.

Mechanical. — Or you have a mechanical problem to meet for which you must devise some sort of machine. Your machine you first make in imagination. You suppose that such and such a device will answer. You run it down in thought and see how it will work. If your way is blocked with that device you try out, in imagination, another and

another and another until you find one that appears to satisfy the conditions. This machine you will then make and try out concretely. Moreover you proceed in exactly the same way for the detailed parts of a complicated machine as you do for the machine as a whole. You see the mechanical problem to be met. Vaguely you feel that a wheel, or a lever, or a combination of these of a certain character, will meet the conditions. As yet your mental construct is a mere hypothesis, but you at once begin to work upon it and prove it either true or false — prove its object, that is, either adapted or unadapted to its function. After the parts are severally perfected in thought you think them together into the completed machine, and see whether or not they will fit harmoniously. If they do you are ready to embody your ideas in tangible materials; if they do not you must readjust your parts until they will fit systematically together. But your procedure is exactly the same as in the above two cases — first a guess, then its verification or refutation.

Mathematical. — Nor do you attack a problem in mathematics in a different manner. You have, let us say, this theorem in Geometry to demonstrate :

The line, joining the center of the square described upon the hypotenuse of a right-angled triangle to the vertex of the right angle, bisects the right angle.

If you are wise you will not merely think at this problem as a whole. You will marshal the various conditions that give you a bisected angle, and try them out in turn. First you will assume that the upper segment of the line BO (Fig. 19) is the altitude of an isosceles triangle, which you already know bisects the vertex angle. But you immediately abandon that hypothesis when you see that it would necessitate the two legs, AB and BC , being equal, which is not given. Then you assume that $ABCO$ is either a square or a rhombus, remembering that the diagonals bisect the angles of these

figures. But that you abandon for the same reason as led you to give up the former supposition. Then it occurs to you that BO may be the locus of points equally distant from the sides, AB and BC , and hence bisect their

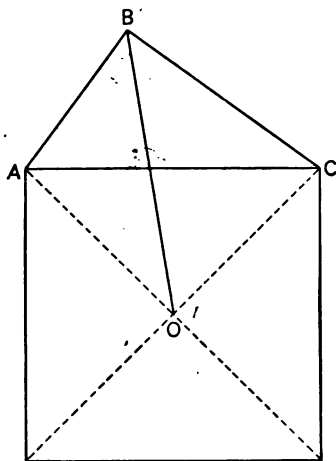


FIG. 19.

angle. But, though you know that AO equals OC , you may not have a way of showing that these are the perpendicular distances from O to the sides, and hence are forced to turn from that hypothesis. Then it occurs to you that the two angles might be measured by equal arcs of the same circle, and hence be equal. In running down this hypothesis you consider whether the figure can be properly inscribed in the necessary circle and find that, since the angles at B and O are both right angles, it can.

You find, too, that the arcs which measure the two angles of your theorem are subtended by the equal chords, AO and OC , hence are equal, and the joyful *q. e. d.* follows.

History of science. — The great discoveries of history illustrate this same method. Morse was one day riding on a ship when he was shown the phenomena of electro-magnetism. At once a suggestion came to him. Why not send electric currents over a long wire before they pass around the coil of the magnet, and thus, by making and breaking the current, control the operation of a machine miles away? This was first merely a guess, an hypothesis, a theory, but when run down it resulted in the now familiar telegraph. Jenner, when a youth, heard a country girl claim immunity from smallpox on the ground that she once had cowpox.

That suggested to him the hypothesis that smallpox might be prevented by inoculation — a guess that, when verified, gave us vaccination. Newton, according to the story, inferred from the fall of an apple that gravitation might explain the holding of the planets in their orbits — and when he had traced out this hypothesis by elaborate mathematical investigation he gave us his theory of Universal Gravitation. Darwin had been for years studying the cause for the variety of species in plant and animal life, setting up and finding defective one hypothesis after another, when a book by Malthus on “The Theory of Population” suggested to him natural selection — and that guess, when worked out, gave us the Theory of Evolution. Of this latter great scientist his son, Francis Darwin, reports :

He often said that no one could be a good observer unless he was an active theorizer. It was as though he were charged with theorizing power ready to flow out into any channel on the slightest disturbance, so that no fact, however small, could avoid releasing a stream of theory, and thus the fact became magnified into importance. In this way it naturally happened that many untenable theories occurred to him. He was just to his theories and did not condemn them unheard; and so it happened that he was willing to test what would seem to most people not at all worth testing. These rather wild trials he called “fools’ experiments” and enjoyed them extremely. As an example I may mention that, finding the cotyledons of *Biophytum* to be highly sensitive to vibrations of the table, he fancied that they might perceive the vibrations of sound, and therefore made me play my bassoon close to a plant. The love of experiment was very strong in him, and I can remember the way he would say, “I shan’t be easy till I have tried it,” as if an outside force were driving him.

Detective work. — Everybody who reads the newspapers knows how important these hypotheses are to detectives, to police, and to criminal lawyers. One Friday a young man was murdered. The detectives looked the situation over, went to their offices, and thought out a theory. On its basis they arrested a young man, whom no one had

suspected, and by Monday he had confessed to the crime. Some time ago an unsigned letter came to the United States Department of Agriculture, complaining of graft in the forestry business of the far West. All marks by which the writer could be identified were carefully concealed. The letter was turned over to a detective agency, which at once busied itself to construct an hypothesis as to the writer. Examination of the list of persons financially interested in the section complained of showed that a Chicago man was a large holder. The inference was made that he might have written the complaint. A decoy letter was sent to him inquiring about some innocent looking business matters. A careful study of his reply showed that the letter had been written with exactly the same typewriter that had been used for the letter of which the author was sought. Of just such successful use of hypotheses police, court, and detective records are crowded. It is indeed hard to escape the drag of a well-wrought theory.

System in using hypotheses. — But it is not sufficient to employ hypotheses. If one is to be most successful one must use them systematically. There is probably no normal mind that does not begin at once to make some sort of hypotheses when confronted with a puzzling situation. The difference lies in the way in which these are used. The bungler makes and tests them merely at random. When he stands before the machine that is out of working order his mental attitude is one of confused but of actual guesses. He would not take hold of this part and that and shake them in some particular way did he not guess vaguely that this or that might possibly be wrong. But his weakness is that he makes no difference between one hypothesis and another. They all make for him one crude lump. Whatever one occurs first, no matter how trivial it may be, he tries out. Its presence in his mind crowds out all others for the time. Making no distinction between the relevant and the irrele-

vant, he is destined to chase an endless number of will-o'-the-wisps and catch none of them. Thus, lost in the maze of possibilities, he finds his problem bafflingly complex. He is another of those poor fools who can not see the forest for the trees.

But quite otherwise proceeds the skilled mechanic. Before taking hold anywhere he calls up the chief accidents to which the machine of the illustration is subject. Of these rival major hypotheses a considerable part is then at least tentatively refuted by a general survey of the situation. A mere glance is enough to render them improbable. The few remaining ones are balanced against each other and tested out in the order of their probability. The mechanic, thus, instead of fumbling vaguely over the whole machine, investigates only a few critical places — often only one — and usually locates the trouble in but a very few moments. The physician does the same. He holds in mind the various diseases which are most likely to occur under the circumstances, abandons most of them upon a hasty survey of the symptoms, and runs down in more detail the remaining ones. Likewise the good detective. He does not plunge hastily into the first theory that occurs to him, but inhibits the tendency to do so until he can set alongside of this hypothesis other possible ones. Out of these he chooses the most probable for detailed consideration. So the good mathematician. If he is puzzled to prove two angles equal or two lines parallel he thinks over systematically the various conditions that make angles equal or lines parallel, and tries them out on his given problem in the order in which the conditions necessary seem most likely to be present there. And so in general one can greatly multiply his chances of success in solving any problem by systematizing his mode of attack. If before he begins to hunt for a lost article he recalls the places where he may have left it, before he enters upon his search for a proper

device he systematically reviews the types of devices that belong to this general field, or before he attacks his problem in geometry he assembles all of the known theorems that have to do with that sort of problem, the thing sought can not long escape him. It need be his only concern first to include all of these in his survey and then to investigate them in the order of their promised fruitfulness.

Planning a day's work. — As a collateral application of this same principle it may be remarked that the same sort of system which enables one to solve his problems economically also enables him to attack most effectively his day's work. Many a person wastes time because he has planned for the hour only one task, and if there should rise some hitch in that he only sits and fritters away his time. But if he, in going to his work, has planned for himself a number of things which he might do he could have a second task to fall back upon in case there were a hitch in that of his first preference. Thus there would be no wasted time, but at each moment he would have choice among several duties to which he could turn without the least delay. Many a successful man has owed his success to this very fact that he found a way to make use of the odd moments which others merely trifled away.

Other requisites for problem solving. — *Knowledge.* — Returning now to our matter of problem solving, we have seen that the effective man must, in the first place, form hypotheses before he attacks his problem and, in the second place, must marshal a number of such hypotheses and trace out first, not necessarily the one that comes first to mind, but the one that appears most plausible. But three other traits of mind are also necessary. The first is knowledge. One must be well enough acquainted with the facts to know whether the situation in question would follow from the hypothesis if true. To be able, for instance, to handle *geometry* one must have more than proper methods of

approach ; one must also know those elements of the subject upon which the solution of the problem in hand depends.

Intellectual honesty. — The second necessity is intellectual honesty. It is really harder to be intellectually honest than one would think. The hypothesis upon which one first embarks is likely to become immediately his pet. He tends to close his eyes to facts that weaken it and overemphasize those which confirm it. He feels that his honor rests with establishing that hypothesis, and he unconsciously tries to stretch the facts so that his theory will fit them. On the other hand the truly scientific mind must be ready at any time to sacrifice its theories in the interests of conformity to the facts. One must actually seek to refute his own hypotheses if his results are to be trustworthy. Professor Royce says that no one can be a true philosopher who has not at some time profoundly doubted his own system, and this same thing is true of scientific theories or even of those which we are every hour forming in solving our practical problems.

Depth of penetration. — But, as a third qualification, the effective man must add some depth of penetration if he would see matters in their true perspective. The common mind is impulsive and empirical. It stays on the surface and jumps hastily at very superficial explanations. It can connect simple, concrete terms, but can not trace out the relations between underlying causes and effects. Any one who knows the facts of electricity can see the relation between a broken wire and the cessation of the current, but it was only by Newton that the fall of an apple could be connected with the attraction of the moon by the earth as the cause of its position and motion. Any one can see superficial analogies, but it is the mark of the genius to see underlying analogies, and it is out of the perception of these underlying analogies that have arisen the great hypotheses of history which have produced notable inventions, detected

well-concealed crime, and explained the phenomena of science and philosophy. It is true that this ability to get beneath the surface may be partly native, but it can also doubtless be cultivated. It is as much a matter of mental habit as of natural keenness. To cultivate it one needs to interest oneself in fundamental theory — to get into the habit of looking at matters from the standpoint of their underlying causes. One needs, that is, to get into the way of thinking, rather than of merely sensing, his world.

Thus the effective mind is always active in some specific way in the presence of its problems. It is always asking specific questions, making definite suppositions. In no other way can it achieve results, whether it be engaged in simple perception or in the solution of the most complicated problems. And that mind accomplishes most that is most fruitful in forming these hypotheses, most systematic in classifying them, and running them down, and most heroic in abandoning wrong ones the moment they are shown to be erroneous.

EXERCISES

1. Show that one uses the method of hypotheses in planning a vacation, or even a dinner.

2. Demonstrate some original in geometry or some identity in trigonometry, and then explain in detail how you found the solution.

3. Show in some detail how you would attack the problem of why Napoleon could retain so strong a grip upon the French people.

4. What is the value of suspending judgment in problem solving? Cite cases where "cocksureness" has militated against effective thinking.

5. Can one be too timid about running down hypotheses which, on the surface, look improbable? Point out some great scientific achievements which have come about through running down such "fools' hypotheses."

6. What is the graphical method of working up results of investigations? What is its value in problem solving and in the exposition of the results?

CHAPTER VII

OUR CONCEPTS AND HOW WE MAKE THEM CLEAR

Differences in ability to do abstract thinking. — A father and his son, about to go for a row, found that water had leaked into the boat. A clever dog was sent to get the bucket with which to bail it out. This he was unable to find and returned with nothing. The boy was sent, but he too returned empty-handed. Then the father himself went. Unable to find the bucket he noticed a sponge lying by, saw that, for his purpose, this was the equivalent of the vessel sought, and brought it along. Now all three had seen the same sponge but to the first two it had been meaningless. These had in mind only the concrete bucket sought and, failing to get that, were helpless. But the father was thinking in more abstract terms. His image was not merely of a particular physical object, but of anything which possessed the quality of having apartments into which water could be put and thus lifted out of the boat. He had abstracted out of the situation this one essential attribute of containing cavities that could be filled and emptied, and was prepared to find this quality embodied in a wide range of objects, any one of which would serve his purpose.

Now it is just this power that distinguishes man from the lower animals, that gives to the adult superiority over the child, that marks the clever and effective man off from the stupid one. The latter can deal only with objects as wholes, with the concrete, with surface resemblances; the former can pick the situation to pieces and get at its essence, can think

in terms of abstract principles, can detect underlying similarities. A dog can learn to push off a hoop and thus open a gate, but if the hoop is changed to what is really the same in principle, a latch, he is nonplussed. A mouse can be taught to open a trap door by pulling a string in a certain part of his cage and thus escape, but place the string in a different position and he is lost. A man could readily solve such problem because he would not be thinking of concrete hoop or string, but of the more abstract matter of removing the impediment to the door — be that impediment in this case one thing or another. The same thing is true of one man as compared with another. One type, capable of dealing with underlying principles, is ready to meet a difficulty in any number of different ways; another type, concrete in its mode of thinking, is baffled if the difficulty is presented in any other way than the specific one about which he has already been taught.

"We have here, then, for consideration a power of the human mind which is of the most fundamental importance — the power to deal, not with things as concrete wholes, but with certain abstract qualities which are embodied in these but which are also embodied in many other things as well, so that he who possesses this power is master of them all instead of merely those few dressed out in the familiar garb.

Concepts. — Now to have such notion of a class of objects bound together through their possession of common properties is to have what psychologists call a concept. You have, for example, an idea of tree. What is it? It is not of this tree, nor of that one, nor of yonder one. It is of tree in general. It is neither oak nor walnut nor cherry nor maple. It includes all of these and many besides. Your idea is of every object which embodies the essence of tree — woody fiber and a shape and size confined within certain limits. Similarly you can form an idea of house in general which applies to all that class of buildings that possess the

common property of being adapted to live in. So likewise you can think not only of Gyp, but of the whole class to which Gyp belongs; not only of a specific book, but of books apart from any such limitations; not only of a particular chair in your parlor, but of chairs in general; not only of single acts of justice, but of justice itself; not only of laws, but of law; not only of teaching a class at a particular time in a given room, but of the vocation of teaching; not only of the sacrament as administered on a certain Sunday, or of a doctrine as set forth in a special sermon, but of a church as a whole. You have here brought together your various experiences with dogs, with books, with chairs, with deeds of justice, with acts of teaching, with your church as expressed in many different ways, and have built up out of them unitary concepts of dog, or book, or chair, or justice, or teaching, or church. These ideas which refer to classes instead of to single perceptual objects are what we call concepts. "Conception," then, as Angell defines it, "is that mental operation by means of which we bring together the common points of our various experiences and mentally consolidate them into ideas; ideas which we are then able to use as symbols, or representatives, of these manifold items."

Conception vs. perception. — Conception — the mental act involved in having concepts — is usually contrasted with perception, which we have already studied. Perception is of individual objects; conception is of classes of objects, or of the object under different conditions. If you stand before a chair and recognize it as such, you have a percept of the chair; if you think CHAIR without referring to any particular one of the class, you have a concept of it. Similarly if you are confronted by John Smith and recognize him as such, what you have is a percept; if you have a notion of John Smith built up out of the many times you have seen him in his different moods, different clothes, different places, different occupations, etc., it is a concept. A concept is

thus more or less abstract. It has brought together many different experiences and has reached into the heart of these varying experiences with the object and pulled out its essence and now holds this essence in mind. A percept, on the other hand, is concrete. It refers to a particular object of a class, and one, too, that stands right before you. It is of this tree here, this chair, this John Smith as he now appears before you.

Value of concepts. — *Economy.* — Concepts are of the utmost value to us because they make possible a very great economy in our mental life, and hence enable us to make a degree of headway which would otherwise be absolutely impossible. The lower animals can adjust themselves to individual objects, but they can not, at one effort, adjust themselves to a whole class, for they can not generalize upon the properties of a class. They can learn to avoid this trap and that, but at the essence of trap they can not get. Hence they can work out no general method of dealing with traps. But man, employing his class concepts, is not confined to one object after another. He can throw large bunches of them together into one group and deal with all of these at a single stroke. When he once has an adequate concept of a class he knows in advance all the members of this class and can plan against them all in one act. He does not try to work out a method of killing this particular codling moth or that one, but busies himself to find a chemical compound, and a means of using it, that is fatal to pestiferous insects as a class. He does not learn how to build a house of a given size, at a given place, and of given materials, but works out the principles of architecture for houses in general. He does not confine himself to a study of this piece of iron, but works out a theory of the uses and behavior of iron as a whole. He thus saves himself the endless task of dealing with an indefinite number of concrete objects, as one without concepts would be obliged to do, but gets right at the heart of the matter

by working with the essence of the group, knowing that what is true of the essence of all will be true of each taken separately. Thus in conceptual thinking we go straight to our goal, stepping as it were from mountain top to mountain top, and hence making a degree of progress which would be absolutely impossible could we not, through having their central secret, deal with thousands of details with a single stroke. Indeed the largest part of any scientific study is to develop new concepts — to find fundamental likenesses which enable us to group together things which previously stood alone, and thus know at once what to expect of them through knowing their fundamental nature.

Basis of all thinking. — Indeed not only are concepts important because they help us thus to economize in our dealings with our world, but they lie at the basis of all of our thinking, and are the stuff of which it is made. Without concepts there could be no thinking. To think is to relate one concept to another, or a percept to a concept. Thus we have a concept of grass and a concept of greenness. When we compare them and find they fit together, we get the judgment, "The grass is green." Or we may compare the concepts of patriotism and of goodness and get the judgment that patriotism is good; or, from comparing the concepts man and quadruped, judge that man is not a quadruped. Or we may stand before a certain object, compare its qualities with those of tree, and judge, "This is a tree," or "This is not a tree" as the circumstances may warrant (concept with percept). But without such comparison of concepts there is no thinking. Hence to have concepts is the first requisite of a rational life. The creature that lived merely on the perceptual level, that never threw together its experiences with men, or trees, or vertebrates, and learned to adjust itself to their class as a whole, through adjusting itself to its essential features, could never, through thought, prepare itself in advance for any emergency. It

would need to take its experience merely as one brute fact after another. For to mature any policy of dealing with objects of certain kinds it is necessary to know in advance how they will act, hence what essential properties they possess, and consequently to have a concept of the class to which they belong.

Value of clear concepts. — And if concepts are necessary for thinking, it is evident that clear and adequate concepts are necessary for clear and adequate thinking. You have read something of the feudalism of the Middle Ages. How clear are your notions of it? Can you tell me whether a typical knight, riding along a narrow pass and meeting a peasant also on horseback, would have felt obliged to inconvenience himself to let the peasant by? If you had lent money to a knight how confident could you have been of his returning it? If, at certain times, it had appeared clear that he could not make himself useful through adventure, could the typical knight have been counted upon, during those times, to make himself useful through ordinary manual labor? If you can not answer these, and other similar questions, it is because your concepts of chivalry are more or less hazy. If you knew accurately and fully what qualities the typical knight possessed, you could judge with certainty what he would have done under any proposed conditions. To think clearly and adequately about this matter, therefore, demands first of all adequate concepts of its factors.

Why do we trust what a recognized expert says on a subject within his field? Is it not because he has gained clear ideas on what he is talking about? If, for example, he is a specialist on birds, he has an accurate concept of each of the species. He knows exactly what are the essential qualities of each. When pressed for certain details he does not find his notions become hazy, but can lay direct hold upon what is wanted. Everything is there and is there in a clear-cut

way, so that he can speak straightforwardly upon his subject without omissions or misstatements. But those of us who are not experts soon find our minds a blank when pressed for details. Our ideas prove but shadowy and indistinct. And so we can not pass a judgment upon the matter that would be more than a mere guess.

Test of the clearness of concepts. — We must, then, have clear concepts if we are to do clear thinking. Now do we as a rule have? Consider for a moment the clarity of your own concepts. In politics you must make choice of being a Democrat, Republican, Independent, Socialist, etc. Even now you are probably debating on the relative merits of these parties. But do you know exactly and in detail what each is? Or is your notion of each somewhat hazy and your supposed thinking about the matter rather prejudice than real thinking? You are a Methodist, a Baptist, a Christian Scientist, or a Catholic. Do you know exactly why? Have you a perfectly clear idea of just what each one is? Nay, even when we come to matters considered commonplace, are your ideas perfectly clear? Try to think of *all* that the following terms involve and see whether your concept of each is so complete, clear-cut, and accurate that you can follow each of them out into all of its shades of meaning without any haziness: law, good, stock, service, art, action, salt, religion, government, school. If you really find it so, you are more fortunate than most of mortals. For my own part at least I soon come to a fringe of duskiness surrounding every one of them.

When we actually run down our concepts we find a surprisingly large number of unexplored wildernesses in them. In fact very few of our class notions are clear when hard pressed, and that is why so much of our thinking is loose, disjointed, and valueless.

Methods of making concepts adequate. — *Wide experience.* — Now there are at least three conditions which

make for adequacy in our concepts, of which we must take advantage if we would think effectively. First is adequate knowledge or experience. Our concepts generalize our experience. As soon as the child has seen two dogs he begins to form a concept of dog which includes the common qualities of both of these. If both are poodle dogs but one white and the other black, the child's concept will be of a small, woolly animal of a roly-poly shape but not necessarily of a given color. If next he sees a pug dog, he will leave out of his concept woolliness and certain elements of shape, especially about the head. Seeing a terrier he will greatly revise his notion of shape, but keep that of smallness and gentleness. When, however, he sees a shepherd dog, a hound, a bulldog, a Newfoundland dog, etc., he will successively correct his concept so as to include the common properties of all of these animals. Thus with his widening experience his concept grows progressively more adequate, but it can not be complete until he has seen every different kind of dog in existence. And this is in general true. Other things being equal, the more experience we have had with any class of objects the more nearly perfect our notion of it as a class.

On the other hand, if our experience has been narrow, our notions are almost sure to be extremely vague and distorted. The person who has met few different kinds of men, or who has heard a political doctrine expounded from but few angles, or who has made but a superficial study of any subject, has incomplete and one-sided concepts of these; and when he discusses them, necessarily does so in a superficial and biased manner. Yet unfortunately most of us are unaware of the inadequacy of our concepts — indeed the less we know the more we are tempted to think we know. Their content, when we know little of the subject to which they belong, is so meager and so definite that we can handle them with a sense of security with which the real expert, who has seen enough of the matter to realize its complexity, is not blessed —

Hence the bigotry of so many ignorant men and the modesty of the true scholar. Of course the remedy for this inadequacy of concepts is more experience — more reading and study, more travel and meeting of men — so that one may have met as many and as great variations within the class as possible.

Analysis. — But it is not enough to have had many experiences. There are people who have met many men, or seen many trees, or traveled much over the earth, and yet have no clear notions of what they have met. Their defect is that they have never analyzed their experiences. They have let them as vague wholes fall into mind and out again just as the lower animals probably do. They have not concerned themselves to separate the essence of the varying objects from their accidents, and hence when they undertake to put to themselves or others just what the thing really is, they find their notion a mere confused jumble. They have a vague sense of it, but it seems just beyond their finger tips. Their concepts have remained, in spite of their many-sided experience, on essentially the same level as those of the lower animals. One must, therefore, not only have experiences, but must analyze them and pick out their essential elements — must learn to recognize the universal in the individual. It is customary for psychologists to point out several steps in this analysis of varying objects which yet belong to the same class. After the *presentation* of the objects, which a wide experience affords, they must be systematically compared with each other. Without such *comparison* of one with another we are not helped at all by meeting many of them. As a result of this comparison we can discover the common properties of the group and *abstract* them from the mass of accidents with which they are attended. After this *abstraction* of the common elements comes their *generalization* into an organic idea of the group, a concept; and finally a name is given to the class of

which the idea has been thus formed (*denomination*). The steps, then, in building up a concept are (1) presentation, (2) comparison, (3) abstraction, (4) generalization, and (5) denomination or naming.

Guarding against bias. — But, finally, if we are to be sure of having balanced and adequate concepts, we must guard ourselves against being misled by a trick which the mind has of tagging a concept with some concrete image. No purely abstract idea can be brought to the focus of consciousness. It must always have some particular image to which it may be attached, though sometimes this image is only a word or a bodily movement. Thus if I mention *park*, some particular park will come up before you. When you think *woman*, you get an image of one of this sex of a certain size and with specific characteristics. When you think *dog* there does not come up out of your past experience a composite picture of all dogs but some concrete dog, Gyp, which you know best, is likely to stand for the class. Of course you know that, while you see these in your mind's eye, you mean much more than them — that you mean the whole class, which, you recognize if you stop to think, does not possess all the peculiarities of these specific representatives.

But then, if you are as lazy intellectually as most of us are, you do not take the trouble to stop and think, but permit your notion to be biased by the special character of the representative which for you concretely images the group. Unless you keep on your guard, you will inevitably think of the class, not as its essence would require, but in terms of what are merely peculiarities of the concrete representative about which the concept at this time centers, and seriously warp your judgment in consequence. It is doubtful whether a woman who thought *dog* in terms of her pet poodle, which could not bite through a man's trousers if he tried, could judge sanely of an ordinance requiring

dogs to be muzzled, or if a person who pictured *man* in terms of a scoundrel who yesterday beat him out of his money could fairly estimate an ethical discourse on the inherent nobility of the human species. Neither could think straight because neither could have unbiased concepts on account of the distorting influence of the concrete tag to these concepts. Of course we can not avoid having the class represented to us in this concrete way, but we can avoid bias by stopping for a moment to think — by checking our tendency to evaluate the group in a way determined by some non-typical representative with which we happen to be intimately acquainted, and which consequently first surges into mind, and by holding fast to what sober reflection shows us to be the average characteristics of the members of the class — by dealing, that is, with its essence rather than its accidents.

Defining the meaning of a concept. — The person, then, who has had a wide experience with a class of objects, who has analyzed this experience and picked out the essential qualities of the class, and who has been careful to avoid letting his concept be biased by having it determined by some non-representative member of the group, has done much to insure clear ideas of it, and hence to prepare himself to think and act regarding it without confusion. When any member of the class is presented to such a one, he can recognize it, no matter how much covered up with misleading elements, nor can he be deceived into taking anything extraneous as a member of this class. Thus an experienced physician, who has met the above conditions, can not be misled about what disease the patient is suffering from, nor can an expert mechanic be fooled as to what is the trouble with a machine out of order. Through the maze of confusing details each can adequately *sense* the real trouble.

But before one's concepts are entirely clear another step is necessary — the ability to put these ideas into language. One never knows a matter completely until he can com-

municate it to others. Professor James distinguishes between "Knowledge of acquaintance" and "Knowledge about" an object. When one has merely the former, one can recognize the object and its properties when presented, but can not define them to himself or others. But when one has the latter, one has made definite the thing's relations to other things and can set these forth clearly to himself and others. Now the persons who have not advanced beyond the stage described above have an "acquaintance with" the classes conceived, but no clear "knowledge about" them, and their next step in complete clarification of their concepts is to make clear their *relations* so as to be able to state these to themselves and others. This involves three steps, which we shall take up in order — definition, division, and contrast.

Definition. — A person unskilled in the technique of effective definition, when confronted with the necessity of telling what an object is, will usually begin to enumerate its properties. If you ask him what a chair is he will reply that it has four legs, is about two feet high, and about eighteen inches square, has a back, etc. To tell you what zoölogy is he will enumerate some of the subjects studied in it. In explaining what a monopoly is he will give you a few illustrations. Such an account of these terms could never, of course, be adequate. It picks out merely at random a few qualities of the object, and these often only accidental ones. It is an indication of lack of definite knowledge on the part of the speaker and can leave only confused ideas in the mind of the hearer. But quite otherwise proceeds the skilled expositor. He gets directly at the heart of the matter by stating that a chair is a piece of furniture fitted with a back and designed for one person to sit upon; that zoölogy is the science of animal life; and that a monopoly is a combination for the control of the production of a commodity. And yet in this brief statement the latter has much more adequately covered the matter than has the former with

all of his long, rambling account. At one drive he has got so exactly at the essence of the matter as to leave absolutely no room for obscurity or for ambiguity.

(1) PROXIMATE GENUS. — Now what is there about this latter mode of defining that makes it so brief and yet so adequate? Two features. First is a reference of the object to some higher class (or genus, as the logicians call it) to which it belongs. A chair is a *piece of furniture*, there being a whole class of pieces of furniture of which chair is only one representative (one *species* or sub-group). Zoölogy is a *science*, a larger genus to which zoölogy belongs as one species. A monopoly is a *combination*, there being a whole class of combinations of which this is one member. Similarly a horse is a quadruped, a man is an animal, a mountain is an elevation of land, there being a whole class of quadrupeds, of animals, and of elevations of land. So the first step in logical definition is to refer the object defined to some larger class.

The class must, however, be the one that stands immediately above the class defined (must be the "proximate" genus, as the logicians say) if your reference to it is to help you materially. It would still leave the term confused to say that a chair is a *thing* to sit upon, that zoölogy is the *study* of animals, that a monopoly is *something* to control production, that a horse is a *creature* used to perform work. These upper classes are too large, and leave too much room for play within them, to settle definitely what your term means. Again you would gain nothing by classifying Socrates as a living being and little by calling him a man. Your definition is worth progressively more when you class him as European, Greek, Athenian, and worth most when you put him in that small group of Athenian Sophists of the fourth century B.C. You know little of what to expect of a man if you have classified him merely as a dangerous citizen, but when you have tagged him as an anarchist, you

know much better how to proceed in dealing with him. You are at a loss to deal with a child as long as you regard him only as stupid, but as soon as you have placed him as a middle-grade imbecile, you begin to know where to take hold. The more immediately above the object is the class to which the object is referred, then, the more meaning the reference will give to the idea.

(2) DIFFERENTIA. — Having then referred the object to its proximate genus, the second step is to pick out the respect in which the object differs from others belonging to the same class. There are many kinds of furniture in the class to which chair is referred, but chair differs from all the rest of them in having a back and being designed for one person, to sit upon. There are many combinations, but monopoly is marked off clearly from all the rest by its being one to control production. Psychology, Chemistry, Zoölogy, and others are all sciences, but there are many sciences of many kinds and your notion of each is still crude until you can give a basis for discriminating one from another. But when you remark that Psychology is the science of the functioning of the mind, that Chemistry is the science of molecular structure and change, and that Zoölogy is the science of animal life, you have cleared up this ambiguity. Among all the sciences none has to do directly with mental phenomena but Psychology. When this matter is present, you have Psychology; when it is absent, you do not have it. Similarly wherever you have to do with molecular composition, you have Chemistry; and where with animal life, as such, you have Zoölogy; and where these are lacking, you do not have these sciences. These qualities definitely mark off one from the others, and constitute an infallible test by which you can determine on which side of the boundary line any element falls, and if your concept of the class is to be entirely clear and clean-cut, you must have made perfectly plain to yourself what is this crucial character in which it

differs from all others of the class. In every perfect definition of the class there are, then, two steps — first, to refer the object to its nearest class, its proximate genus, and second, to make clear the specific *differentia* which distinguishes it from all others of its group.

Division. — But a second thing you may do to further clear up your idea. So far you have got your object clearly marked off from others and are, through knowing its differential qualities, in possession of the key as to what can belong there and what can not. But you may know comparatively little about what it really contains until you go a step further. You take this step when you make explicit just what content is included within it. You have, for example, a concept of science, knowing just what its general character is and how it is marked off from others. You help yourself to understand it better by enumerating the kinds of sciences. Science¹ may be physical on the one hand or moral on the other. Physical science may be mechanical, consisting of Physics and Chemistry, or organic, consisting of Biology and Physiology. Moral science may be political, consisting of History and Sociology, or psychological, consisting of Noetics, Æsthetics, and Ethics. Similarly *school* can be understood only when you have in mind the different kinds of schools, *mammal* when you remember the kinds that fall under it, *Psychology* when you acquaint yourself with its many subfields, *law* when you regard its several phases, etc. This process, which runs parallel to and supplements definition, the logicians call Division. It is a device to which we resort perhaps more frequently than we know. If we do not count upon our fingers the items covered by a term, as first, second, third, we do hastily make in mind a survey of what they are. If we did not do so it is doubtful whether we could ever have anything like an adequate notion of what our idea really involves. Cer-

¹ Hyslop's division.

tainly no one could get a subject definitely enough before him to make a balanced speech upon it who did not thus resort to explicit division of the content of his idea.

Contrast. — And finally you may make your notions definite by studying their limits — by contrasting them with elements that lie near to them but yet are excluded from them. Take the meaning of Socialism for example. Many people's idea of it consists of a vague mass of unjustifiable suppositions imported into the mind promiscuously, if not brewed there by prejudice. Among these will probably be found the supposition that Socialism is one with Anarchism, and an important step in clarifying your notion of the doctrine consists in finding that it has nothing whatever to do with Anarchism. Whatever else it is, it does not believe in the abolition of all government as Anarchism does. Then you will find that it is not the same as Communism. It does not mean that everything shall be thrown together into a single pool, and all draw as they need to out of this pool, which is the theory of Communism. Nor does it mean in essence a redistribution of the property now existing. It does not propose thus, as its basic principle, to take the property of the rich and divide it among the poor. Nor is it a general term to cover all that is revolutionary. And so you go on, removing one false connotation after another, until you have the ground covered by the term clearly marked off from that to which it does not spread. After you have done this the positive definition of the doctrine — that it is the collective ownership of the tools of production — becomes much more definite in meaning than it could possibly be without such contrast.

Or, out of a somewhat broader field, but one that could be shown to have much in common with conception, take the question of why you have chosen a certain profession. If your decision is really well founded, it is because your *attention* has gone to rival vocations which, for sufficient

reasons, you have definitely rejected. You have been strengthened, for example, in your determination to study medicine because you see that you are not well fitted for business, since you do not have access to the necessary capital to enable you to be largely successful there. You are not fitted for teaching because you lack the necessary patience, and because you object to being a mere cog in a wheel such as you understand the average teacher must be. You have decided not to take up law because you are not a public speaker and feel doubtful about your ability ever to become one. The ministry you are sure you do not wish to enter because you do not have the devotional spirit which is essential to the successful preacher. And so you go on until, by exclusion, you have narrowed down to the one which you have chosen, and feel sure, in consequence, that you are right in your choice. Again, why are you a Methodist? Why not a Presbyterian or a Baptist? What specific things about the Episcopalians repel you? In what definite way is the Unitarian Church unsuited to your needs? Just why, not in general but in detail, are you not a Catholic? What exactly is your convincing reply to the doctrines of the Theosophists? Evidently, until you know just why you are not a member of one of these, you can never know clearly why you *are* a Methodist. If we made a general practice of thus contrasting all of our ideas with others in the same field, they would certainly be much more definite and adequate in consequence.

Contrasts must not be trivial. — Of course these contrasts are important only when the matter excluded lies very close to the border. It would not be worth while, for example, to consider that Socialism is not the history of Napoleon but it would be worth while to consider that it is not in essence a denial of the right to hold any private property whatsoever. For the one excluded element is so far away that no person would be tempted to include it in his concept.

of Socialism, while the other comes so nearly falling within that it is likely to be vaguely included, and consequently to distort one's idea. Similarly, to say that a cow is not a worm would be stupid, but to observe that a caterpillar is not a true worm may be quite significant. It is these nice distinctions, cutting down just close to the border line, that give definiteness and completeness to one's notions. Indeed a careful, scientific writer spends much time and energy in distinguishing between closely related terms. He wants his readers to get exact notions, not loose and confused ones, and he knows that the surest way to make definite just what a term does include and what it does not is to compare and contrast it with other terms that are nearly but not quite identical with it.

Summary. — Summarizing, then, what has been said in this chapter, we find that the basis of our thinking is concepts. These are our general ideas — ideas of a class of objects. These concepts are very likely to be vague and confused. Yet clear thinking demands clear concepts as its basis. We can clear these up, on the one hand, by getting wide experience with the class in question, by analyzing this experience so as to pick out its essential elements, and by being careful not to allow our concepts to be biased by having them represented by some non-typical member which we permit to determine our attitude toward the class. On the other hand, we can still further clear up our concepts by logically defining them, at least to ourselves, in doing which we refer them to the nearest larger class — the proximate genus — and then learn to distinguish them from others of that class by finding what belongs uniquely to them and to no others of the group — their differentiæ; by applying division to them and thus finding what are the various parts or phases which they contain; and finally by contrasting them with others which are nearly but not exactly like them in character.

EXERCISES

1. What do you call the mental process involved when you recognize an object as a tree? When you think "tree"? When you see that a certain tree is a maple? When you conclude that because a certain tree is a straight, tall oak tree, and because such trees make good lumber, that this one would make good lumber?

2. Compare the concept of a friend with the percept of him.

3. Show of what value concepts of the several diseases are to a physician.

4. Why are old men usually wiser, in practical affairs, than young men? Why do some comparatively young men forge ahead of older ones in this respect?

5. Give logical definitions of the following: bed, triangle, circle, water, democracy, psychology. Point out the genus and *differentia* in each definition.

6. Criticize the following definitions:

(a) A chair is a thing to sit upon.

(b) Water is a liquid which will support floating bodies.

(c) "What is the tongue? The whip of the air."

7. Suppose you were intending to give an address on books, advising the board of a newly organized library what to purchase. Show how you would divide the term *books*.

8. Show how you would make clear by contrast the meaning of each of the following terms: business college, art, science, psychology.

CHAPTER VIII

HOW WE KEEP OUR IDEAS CLEAR — CAREFUL USE OF WORDS

Instability of untagged concepts. — I remember reading, several years ago, an ingenious story with an unintended psychological significance. A young lady, who was beset by several aggressive and persistent lovers, came finally to the point where it was necessary to choose among them. But somehow the problem was too complex for her to think her way clearly through it. What she had accomplished would persistently slip away from her before she could finish the rest, so that the matter remained as chaotic as it had been at the beginning. At length she hit upon an expedient. A short, thick breastpin, stuck into a cushion before her, was made to represent the merchant suitor, whose horizontal proportions nature had made disproportionately large compared to his vertical dimensions. A long black hatpin stood for the minister, who was tall and slender, and of rather somber mien. A brilliant, slender little scarf-pin symbolized the lawyer, for he was tidy in dress and sparkling in wit, while a massive old belt pin was just the thing with which to fix the bodily and intellectually ponderous old millionaire.

Words as tags. — Now most of us are not fortunate enough to have so many lovers that we must tag them to keep them all in mind, but our concepts when untagged are as treacherously elusive as were the favored sweetheart's many swains. And just as the pin could serve as a concrete center for keeping fixed in the mind of the lady in the above illustration

the masses of experience which constituted for her the several lovers, so can a name serve to bind and fix in definite form the otherwise shifting elements which make up a concept. Without such concrete center the concept remains hazy and inarticulate; tagged, its shifting elements are henceforth crystallized into an ordered and clear-cut synthesis. The word becomes a focus around which gather the phases of meaning which constitute the concept. When you have got hold of the word you have got hold of the center of the concept around which its fringe of multiple ramifications adheres.

How indefinite thoughts are when not tagged with words is shown by the extreme vagueness of our daydreaming. After an interval of even a minute or two we can not recollect more than the merest fragment of what we were thinking about. We had been letting a flood of concrete imagery — sensuous pictures of what we were thinking — roll through our minds, and the moment it was through it was gone. We might by chance feel something like the same state over again, but, since the experience was unnamed, it possessed no definite handle by which it could be got hold of and brought back at will, as can our thoughts couched in verbal terms. If we had no such name, for example, as dog, we could think now of this particular dog and now of that, each time admiring or fearing or hating as the case might justify; but never would we be likely to react adequately upon the essence of dogs as a class. We could not at one moment be just, in our attitude, toward all dogs. But with the concept dog, tagged by a definite symbol, we are able to anchor to this, and hence view in a balanced way the class as a whole.

It has been observed that people who have no specific names for very short or very long distances have also hazy notions of their extent. When people speak in terms of the breadth of a finger, or of a day's journey, they think in equally crude terms. When, however, they name these as

so many centimeters, or so many kilometers, their notions of them at once take on exactness. It has been found by experiment that one can detect about five shades of gray when unnamed, but when one adopts names for the different shades the number which he can discriminate is at once greatly augmented. Certainly words as tags can help us through our maze of concepts as readily as pins as tags could help our lady through her maze of lovers. J. S. Mill says:

Hardly any original thoughts on mental or social subjects ever make their way among mankind; or assume their proper importance in the mind of even their inventor, until aptly selected words or phrases have, as it were, nailed them down and held them fast.

And again :

That the language may be fitted to its purpose, not only should every word perfectly express its meaning, but there should be no important meaning without its word. Whatever we have occasion to think of often and for scientific purposes, ought to have a name appropriated to it.

Technical terms. — Just this is the function of all technical terms in science. They are not the outcome of a scientist's delight in a display of erudition. It is not his wish to speak in a language other than that of the common man. But he has definite materials to differentiate out of the vague whole with which the common man deals, and to keep distinct when they have once been differentiated out, and this he can do only by marking them with a very specific tag. If he did not thus " nail them down " with a technical term they would not only slip back again for society into the vague lump of " the children of the dragon's teeth," but would soon lose their distinctness, even in the discoverer's own mind. When at his best he differentiates them out; to hold them there he perforce must find for them an unambiguous and adequate name. True, a science with an elaborate technical terminology may seem rather formidable to

the novice, but, if it is thereby made a trifle more difficult to acquire, it is certainly made more easy to retain, so that a technical terminology proves in the long run most economical. In no field can men do exact thinking except where they keep their thoughts definite with exact language.¹

Other tags than verbal. — It is, of course, true, as was hinted in our last chapter, that other tags than words may serve as the symbols around which our concepts may center. A mental picture of a typical member of the class, or an arbitrary sound of one sort or another, or a certain twist of the head or attitude of the body, or even a particular crook of the finger, would answer the purpose. These would be concrete nuclei, as well as words are. Indeed much of our thinking is in just such terms. The lower animals have no verbal language at all, yet they probably hold more or less definitely in consciousness masses of experience characterized by a certain unity of meaning which are essentially concepts. These are doubtless tagged by some gross bodily attitude. Each sort of experience to which they are capable of giving meaning throws them into a certain muscular state, and conversely, when they are thrown into that muscular state the appropriate mental content is brought in, just as with us it is brought in by the word. For us, too, doubtless, many concepts are sufficiently tagged for our casual thinking by the same sort of gross bodily attitudes. Certainly many of them are carried by visual, auditory, motor, or other similar imagery — that is, by a picture, sound, or sense of movement that comes up before the “mind’s eye.” In this the word may or may not be present in addition to the more concrete image, but certain it is that thinking can be carried on with other tags than the verbal.

¹ Teacher or student will see from this the importance of always closing an inductive study (one leading through examples up to a concept, say, of *son* or a method of computing interest) with an appropriate technical term, rule, or law, and having this memorized.

Superiority of verbal imagery. — Yet, while this is true, it is equally certain that the highest type of thinking is done with words as tags. As Lewis says, "It is the power of thinking by means of symbols which demarcates men from animals, and gives one man or nation the superiority over others." When we daydream we do so mostly in such concrete terms as those mentioned above, but when we set ourselves to serious, voluntary thinking we immediately descend (or shall I say ascend?) into verbal imagery. As we grow more mature the basis of our thinking is more and more words instead of concrete pictures. Indeed highly trained thinkers, such as able scientists, mathematicians, and philosophers, are able to find in their thought processes but very little of a sensuous image basis. They think almost entirely in verbal terms. Indeed they find a rich concrete imagery a handicap for serious and efficient abstract thinking. Children and uneducated persons, on the other hand, think comparatively little in words and much in concrete imagery.

Possibility that language may mislead thought. — But if words can be extremely valuable to us in our thinking, they can also be extremely dangerous. They tend, like so many of our intended servants, to become our masters. Normally we would mature our thoughts and then seek a word to tag them. But we hate to think and never do it until we must. Indeed it is probably not extravagant to say that many of us have done almost no thinking in our lives, and never intend to do any. Even when we say, "I think so and so," we are usually only appropriating what somebody else has thought out, not breaking pathways for ourselves. Instead of maturing thoughts and seeking language for them we let the language ripple through our minds and gather to itself whatever meaning fits its frame. We let the words, that is, lead instead of follow, and put ourselves, unconsciously to be sure, at their mercy. Says Bacon :

Men imagine that their reason governs words whilst, in fact, words react upon the understanding; and this has rendered philosophy and the sciences sophistical and inactive.

Now it is bad enough for words to assume the rôle of leader in our mental activity, rather than servant, making us believe we are thinking when in fact we are not, but it is still worse when they do this leading badly, as they so often do. For, despite the bold front which they put up, they are really at heart very wavering and uncertain guides. As to this the famous old Englishman, John Locke, complains:

Men having been accustomed from their cradles to learn words which are easily got and retained, before they knew or had framed the complex ideas to which they were annexed, or which were to be found in the things they were thought to stand for, they usually continue to do so all their lives; and without taking the pains to settle in their minds determined ideas, they use their words for such unsteady and confused notions as they have, contenting themselves with the same words other people use, as if their very sound necessarily carried with it constantly the same meaning. . . . This inconsistency in men's words when they come to reason concerning either their tenets or interests, manifestly fills their discourse with abundance of empty, unintelligible noise and jargon, especially in moral matters, where the words, for the most part, standing for arbitrary and numerous collections of ideas not regularly and permanently united in nature, their bare sounds are often only thought, or at least very obscure and uncertain notions annexed to them. Men take the words they find in use among their neighbors; and, that they may not seem ignorant of what they stand for, use them confidently, without much troubling their heads about a certain fixed meaning; whereby, besides the ease of it, they retain this advantage: that, as in such discourses they are seldom in the right, so they are seldom to be convinced that they are in the wrong; it being all one to go about to draw those men out of their mistakes who have no settled notions, as to dispossess a vagrant of his habitation who has no settled abode.

Ambiguity. — Certainly the ambiguity of words does contribute to the confusion of thought. Every one who has

studied the history of philosophy, or even of science, knows how largely this is true. *Cause* has meant either that which drives a thing on by mechanical necessity, as an engine pushes or pulls a train; or that which grounds a consequence, as the premises of a syllogism warrant the conclusion; or that which supplies a motive to a voluntary agent, as the fact that a train is about to start induces the would-be passenger to run to catch it, etc. *Idea* and *faith* have each at least four distinct meanings. Rousseau, without knowing it, used *nature* in three different senses. Attempts to classify men as religious or irreligious have rested upon at least three different connotations of the word. Spinoza was characterized by one class of people as "godless" and by another as "god-intoxicated," not because they differently understood his attitude but because *God* had different meanings for the two.

Anarchists believe that government should be abolished. Their argument, in so far as they have any, is based upon the weaknesses found in concrete forms of government. But it is one thing to find all governments defective and quite another to find government as a principle at fault. It might even be true that every government on earth is intolerably bad and should be abolished, but if that were true it would still not follow that government should be abandoned. The anarchist has allowed himself here to fall into intellectual confusion because the word with which he tagged his concept is ambiguous. It is the tag really for two ideas, and because the external symbols for them have not been made distinct, the ideas themselves have got scrambled together.

Right is another word that has led to unfortunate mental chaos. A young man will insist upon his "rights" with an ardor due to a moral obligation. As a courageous gentleman he feels it his business to help defend *the right* and he takes this assertion of his own *rights* to be a part of this campaign. He fails to see that the two are alike only in

the sound of the words which stand for them, but almost diametrically opposite in their real meaning. For *the right* places upon one chiefly not privileges but obligations. It calls upon one, in the face of his own selfish tendencies, to subordinate himself to the universal good. But his *rights* are his privileges, and to insist upon them is to assert his own private interests against those of the whole. Right appeals to his unselfishness; rights to his selfishness. To permit these ideas to run together because the words are identical is too often to basely protect the one when one means to honorably champion the other.

Individuality, freedom, vocation (as compared with avocation), church, law, moral, and many others, are illustrations of words that, by their doubleness of meaning, lead us into intellectual confusion. There is indeed no more fruitful and subtle source of deception than just this one. If we would keep our thoughts clear, it is absolutely necessary that we look to the words in which they are expressed. Carelessness in language will inevitably react upon the clarity of thought. If, for the sake of avoiding the appearance of stiffness, we permit ourselves to say freedom when we really mean spontaneity, or brief when we mean concise, or bad when we mean naughty, our thinking will soon be blunted to conform to the inadequacy of our speech.

Restriction to literal meaning. — In a second way words may imperil thought — that is, by carrying a narrow meaning into a broader application. Metaphors are seriously subject to this danger. The figurative language of religion has reduced the religious ideas of many people to what they themselves would regard as absurd and impious if they ever stopped to think about the matter. Psychology speaks of "the struggle of ideas," and Physics of "force" and "attraction," when any scientist will tell you that the fact indicated is very different from what the word implies. The average man grossly misunderstands even the most

rigorously scientific work because of the figurative manner in which the author is obliged to express himself, to say nothing of those writings and addresses that are made metaphorical for literary effect. The imagery aroused by the language is so strong as to make us forget the difference between the real subject matter under consideration and the figure used to illustrate it. So subtle and persistent is this danger that Heine has been led to remark humorously, "May heaven deliver us from the evil one and from metaphors."

Prejudice. — Again words may carry an unfair prejudice. These have been aptly called "question-begging epithets." The very word, apart from any conviction its use may justify, is such as to prejudice the hearer in favor of or against a proposition. To call a scheme socialistic is to depreciate it in the mind of an auditor by the mere use of the epithet. To say that an opinion is heretical disposes of it, for too many people, without any consideration of its inherent truth or falsity. "Class legislation," "compromise measure," "dangerous and immoral doctrine," "honest money," "the people's cause," "be a sport," — are a few out of the many phrases which unfairly beg a question. The expressions have really no content whatever. They can mean anything. They are merely used to reënforce what the speaker lacks in sounder arguments to drive home. Yet upon this empty jargon "thought" rides to the goal which the speaker or writer desires.

Conservatism. — And finally, words tend to handicap the progress of thought. For established conclusions there are fixed words and expressions. But thought can not remain on the same level. Yet its broader content it must express in the old words and the old phrases. Needless to say they are inadequate to it. The process is like putting new wine into old bottles, which, with this very application in view, we were warned not to do "lest the bottles break and the

wine runneth out." To a slight extent the difficulty is met by coining new technical terms. Yet but a very small fraction of the problem can be met in this way, for the bulk of our words must remain the same, while the bulk of our thoughts certainly should not be static. The full solution could be found only if thought were made to take the lead, and words were kept as servants to it. But remote indeed is that solution and perhaps never to be attained in this world. Nevertheless each can do his part to make himself what Aristotle held that man essentially is, but what extremely few of us really show ourselves to be, — a rational animal, — by consciously keeping his own thoughts as free as possible from the obscurity and ambiguity which the careless use of words occasions. Ruskin says :

Yes, and words, if they are not watched, will do deadly work sometimes. There are masked words droning and skulking about us in Europe just now . . . which nobody understands, but which everybody uses, and most people will also fight for, live for, or even die for, fancying they mean this or that or the other of things dear to them; for such words wear chameleon cloaks, — "ground-lion" cloaks, of the color of the ground of any man's fancy; on that ground they lie in wait, and rend him with a spring from it. There never were creatures of prey so mischievous, never diplomats so cunning, never poisoners so deadly, as these masked words; they are the unjust stewards of all men's ideas. Whatever fancy or favorite instinct a man most cherishes, he gives to his favorite masked word to take care of for him. The word at last comes to have an infinite power over him, — you can not get at him but by its ministry.

EXERCISES

1. In what kind of symbolism do you suppose the deaf and dumb, who communicate with each other by the manual-sign method, do their thinking? Does that serve as well as verbal symbolism?
2. How long do you believe you could have retained, in clear-cut fashion, what you learned in the last chapter about the nature and use of concepts if you had avoided the technical term, concept, or its equivalent?

3. Look up the distinction between the "denotation" and the "connotation" of a term, and apply the distinction to apperception and perception as related to each other. Does the possession of these technical terms help you to do clearer thinking?

4. What is the effect of substituting, in certain cases, the word "swiping" for "stealing"?

5. In a recent discussion of the doctrines of a certain educational reformer one side always referred to him as an "agitator," while the other side always used the term "prophet." What effect would these words produce? Was their use fair? Why?

6. Show how confusion in thinking might arise from indefiniteness of meaning in the following words: culture, good, democratic.

CHAPTER IX

HOW WE LEARN THE CAUSE OF THINGS

Persistence of superstition. — A few years ago Prof. Fletcher B. Dresslar, then at the University of California, collected some two thousand different superstitions current in his state. From this long list the following samples are selected :

If you spill salt you will quarrel with a friend unless you throw some of the spilled salt over your left shoulder.

If a tea leaf rises to the top of your cup you are to have visitors. If the leaf is soft, a lady; if hard, a gentleman.

If you plant corn when the oak leaves are as big as a rabbit's ears, there will be a large crop.

If you let the fire die out while cooking, your husband will be a lazy man.

If you roof your house in the decrease of the moon the shingles never warp nor turn up.

It is good luck to carry a rabbit's foot.

If you secretly rub a bean on a wart and then plant the bean, when it grows the wart will disappear.

Stand behind a door and say "Sty, sty, get out of my eye" for fifteen times without taking a breath, and the sty will go away.

If you wish on the first star you see at night your wish will come true.

Looking at the clock on entering the school room is a sure sign one will be called on to recite.

Prevalence of superstitious beliefs. — Of course many people quote these superstitions jokingly, but large numbers of persons firmly believe in them, and even those who would not confess to such belief still feel just a little uneasiness in disregarding them. Most of us are at the best like a certain French writer who wrote, "I do not believe in ghosts, but I am afraid of them." The gentleman who made the study

referred to above concludes that as much as 44.9 per cent of all these superstitions are believed and that only 55.1 per cent are not believed in by the average man. Even intelligent people will assure you that if a rail fence is laid in the "down sign" it will sink into the ground, that shingles put on in the "up sign" will curl up, etc., and claim that their own experience has abundantly demonstrated it. Says Dresslar:

Engineers feel safer, gamblers run greater risks, and business men make investments, trusting to the power of a rabbit's foot for luck. When the Klondyke fever was at its height, a miner wrote back to his father in this wise: "If you and the boys can kill any rabbits up in the hills, send the feet to me, and I will dispose of the lot in round figures. I never saw men press their luck as they do here. A gambler arrived from St. Louis over the Dalton trail, and knowing that he would find other gamblers, he brought along a dozen rabbits' feet and sold out the lot at \$50 each." But the rabbit's foot is only one of a great many things used for the same purpose.

In the same way people will permit themselves to be humbugged by fortune tellers or by mystery workers of one kind or another. They will pay twenty-five or fifty cents to be "faked," and go away feeling that they have had their money's worth. Mr. Dresslar says that in a recent number of one of the most prominent newspapers of a very important and metropolitan city of our country he counted the advertisements of no less than fifty different people advertising to "tell your fortune with a pack of cards"; "to find lost property by a lock of your hair"; "to cure witchery"; "to penetrate all the affairs of your life"; "to reveal all hidden mysteries"; "to find through the power of second sight investments that will make you a fortune"; "to guide sporting men in games of chance"; "to cure all diseases on earth"; and "to give correct information on the whole range of the unknown."

Clung to even when disproved. — Nor is the most conclusive evidence sufficient to offset the hold of these superstitions.

They are accepted merely upon hearsay, yet even when experience, if attended to, would disprove them they are still clung to. It is supposed, for example, to portend bad luck to have a black cat cross one's path. Yet black cats have crossed our paths many a time without any evil effect, but that fact has not broken down our belief in the superstition. These cases of failure of the superstition to work out are merely overlooked, while attention is strongly centered upon those few cases in which it does hold. Nor is this true only of the type of superstitions indicated above. It is likewise true of notions that we have about ourselves — about our ability, our good or bad luck, our open-mindedness, our tact, and a thousand other matters — in which our attitude is so childishly uncritical as to deserve to be called a superstition. And the same thing is true of our attitude toward our friends, toward the institutions to which we belong, and toward our pet theories. Facts may flatly contradict these superstitions, yet we go on sublimely indifferent to these facts, still cherishing our old beliefs.

Superstition due to ignorance of test of truth. — In fact most people do not know explicitly how to proceed in testing a supposed truth. As Dresslar says:

The popular notion of what constitutes scientific evidence is sadly in error. Great masses of the people have a very vague conception of what is meant by proof. When multitudes of people are willing to believe that bad luck follows directly on stepping over a broom, and are willing to evidence the fact by recalling instances where this was the case with them, what sort of an idea can they have of cause and effect? Here, as elsewhere, possible coincidence, interpreted by an expectant mind, suffices for a fundamental and an everlasting cause. Men are willing and eager to explain things; but as yet few have ever stopped to consider what explanation really means.

Mill's experimental methods for testing causal relations. — Now in this chapter we shall consider the methods of testing such supposed truths. We shall see how the

scientist proceeds in assuring himself that a certain matter really is, or is not, the cause of a fact or group of facts. And these same laws of logical procedure which he uses to such great advantage we shall see that we can — and to an extent do — use in our everyday affairs. But when we shall have made these methods explicit we shall be in a position to use them more effectively, for we can then employ them consciously, control them ourselves, and hence attain a much higher degree of certainty than would be possible with the haphazard methods of ordinary chance thinking.

The methods of testing supposed causal connections which we shall set forth here were worked out by John Stuart Mill several generations ago, and are called Mill's "Experimental Methods." They were, however, of course more or less unconsciously used by scientists and others long before Mill's formulation of them. There are five of them, and we shall take them up and illustrate them in order.

Method of agreement. — The first of these inductive methods is the simplest and hence the earliest to be used, both by the child and by the race. My little boy, three years of age, when asked what makes it rain replied, "the wind." How had he come to that conclusion? Why, plainly in this way: time after time he had found that the wind blew just before a rain. He had come in time to think of these as belonging together. Wherever he found the one he vaguely expected to find the other. Hence he took the wind to be the cause of the rain. Now the child's mode of reasoning, in spite of the incorrectness of his conclusion, was really a legitimate method of thinking. From the fact that one thing is accompanied by another we may, under restrictions discussed below, conclude that the former is the cause of the latter. This first and simplest method of reasoning Mill named the Method of Agreement. It is a method which you all repeatedly use. One person after another who has studied the classics is found to be strong in the power of ex-

pression. Naturally you attribute their facility in language to their study of Greek and Latin. You find that practically all the persons who have recently taken typhoid fever purchase milk from the same dealer. Hence you charge the disease to something in the milk. You learn that educated persons as a class are more successful than others. In consequence you attribute their success to something in their education. You recall that every time you eat peanuts you have indigestion. Therefore you lay the indigestion to the peanuts. Wherever you find two things going regularly together you take it that they belong together inherently.

Scientific use of method of agreement. — Now the scientist, observing that this is one of the mind's ways of getting at truth, brings this procedure under control. Instead of depending on chance observation, he deliberately gathers together a large number of instances which differ as much as possible from each other in all respects except the one that has been taken as the probable cause. If he is a botanist and wishes to learn whether it is essential to a certain plant to have its seeds attached in a particular way, he will collect several hundred of these plants, from as many different conditions as possible, and examine them. If he finds that all have the seeds attached in the way in question, he concludes that that mode of attachment is essential, and not accidental. If he wishes to learn whether the cause of an electric current in a cell is the difference of the plates, he will use as many different plates, and as many different electrolytes as possible, keeping only the one factor constant that the plates shall be different. If he finds that a current is always given under these conditions, he concludes that the difference of plates is the only essential to an electric battery. If he wishes to assure himself that saloons are a cause of high criminal expense, he will choose for study a large number of towns from all parts of the country, and having, as nearly as possible, nothing in common except liquor license. If in

all of these he finds criminal expenses high, he will feel justified in attributing that fact to the saloons. The procedure is thus always to seek out many cases for testing one's supposition, being careful that they vary so much among themselves as to have but one feature in common. If, then, in all of them the effect is still present one may be pretty sure that the element that was the same in all the cases is essential to it.

Popular use of the method. — There is indeed no commoner method of clearing up our ideas than this one. If we suspect that success on the platform is favored by a large stature, or that a left-handed man has an advantage as a baseball pitcher, or that a young man who can sing well will be most in favor with the ladies, the first thing we will do is to count over the illustrative instances. It was true, we say, in this case, and in this case, and in this case; it is therefore universally and necessarily true. Nay, even all our concepts are built up by just this process. It is thus that we find out what elements are essential to them and what are not. Our minds run back over the experiences that we have had with the class of objects in question, and those elements we find common to all while the setting varies we fasten upon as the essence of the class. Those that do not remain constant we reject as accidents. We compare, that is, one with another, and that in which we find them all agree we abstract out and generalize as our class concept. And the same precaution which makes the scientists' conclusions so trustworthy also makes the everyday concept adequate — the precaution not to jump hastily at a result upon the basis of a few cases, but to rest that result on a large number of instances which have been so chosen as to vary sufficiently widely that they may represent justly and adequately the whole situation.

Limitations of method of agreement. — But no careful thinker would stop with the Method of Agreement. It

can prove anything if you only select your instances rightly. Nothing is easier than to prove that planting in the "up sign" insures a good crop. You only need recall merely those instances where success has followed such planting and forget the rest. Red-headed people are unusually irascible. To prove so note only those cases in which they are. Indeed often large numbers of instances can be marshaled that carry for the point a high degree of plausibility. Unbalanced concepts and groundless generalizations come almost always from the careless use of this Method of Agreement alone. This method must, therefore, be checked by another, the Method of Difference.

Method of difference. — In this, instead of finding a series of instances to which the supposed cause is common, you select one where that cause is present, and another, exactly like it in all other respects, where it is absent. You endeavor, that is, to make the two differ only in respect to the critical element. If, then, the effect follows where the supposed cause is present, and does not follow where it is absent, you are pretty safe in judging that the element in question is essential to the effect. If the child referred to above had not only recalled instances where the wind and rain occurred together, but had definitely tried to think of occasions where they were not together, he would not have taken the wind to be the cause of the rain. If the person who is justifying the efficacy of the "up sign" would seek for cases where a successful crop had followed planting in another sign, their necessary connection would soon be disproved. It is only because negative instances are not sought, nay are even carefully avoided, that so many shallow and indefensible generalizations can arise so easily and persist so long.

If one were trying to prove that light is essential to the growth of a plant he could do so by setting one box containing a plant in the light, and another, exactly like it, in the

dark. To determine that air is essential to the carrying of sound one rings a bell first in a jar containing air and then in the same jar with the air exhausted. To prove that water boatmen possess the sense of hearing the scientist Graber first dropped stones into a vessel, in which they were present, which had its bottom covered with mud, and in which, consequently, the dropping of the stones made no noise. Then he put a plate of glass over the mud, so that when dropped upon it the stones would make a noise, and found that in the latter case, but not in the former, the insects took flight, showing that they did possess the sense of hearing.

Joint method of agreement and difference. — Ordinarily, however, particularly in our practical affairs outside the laboratory, we use a Joint Method of Agreement and Difference by combining the two. We compare a *number* of instances where the supposed cause is present with a number in which it is absent. If the effect follows in all of the former series and in none of the latter we conclude that it is the true cause. To prove that the liquor business increases the taxes of a county, through increasing the court and police expenses, we take a large number of typical counties which have saloons and compare them with a large number of typical ones which do not have. If we find the expenses uniformly high in the former case and low in the latter we attribute the result to the liquor business. To test the social effect of Christianity we compare a large number of representative church members with a large number of representative non-members. To assure ourselves whether a certain kind of food, or a certain form of dissipation, is injurious to us, we compare our condition on a large number of occasions when we have indulged with our condition on many occasions when we have not, being careful always to select for the two sides instances as nearly as possible alike except for the presence or absence of the element under scrutiny.

Concomitant variations. — Still a fourth method, however, is available to further strengthen our certainty. It is illustrated by the result of several investigations into the influence of the use of tobacco upon success in school work. A representative inquiry, carried on by one of the high school boys among his schoolmates at Highland Park, Illinois, resulted in the following facts :

Average grade of 77 boys who had never smoked	84.5%
Average grade of 24 boys who had quit smoking	80.5%
Average grade of 55 habitual smokers	76 %
Average grade of 45 habitual smokers who had left school	69 %

It showed that, on the average, success in school work varied regularly with the use of tobacco. As the cause of low standing increased the effect increased, and vice versa. The two at every point varied together. Hence the use of tobacco was concluded to be a handicap to successful study. This method of reasoning the logicians call by the rather jaw-breaking name, — the Method of Concomitant Variations, — that is, of simultaneous or parallel changes.

This method is used repeatedly, both in the laboratory and in everyday affairs. From the fact that the mercury in the thermometer rises and falls in exact accord with temperature changes we conclude that the change in temperature causes the change in the length of the mercury column. If investigation shows that the number of deaths rises and falls concomitantly with the rise and fall in the humidity of the atmosphere, a most natural conclusion would be that the humidity is responsible. If the magnetic disturbances on the earth increase and decrease at the exact time, and in the exact proportion, as an increase or decrease in the number and magnitude of spots on the sun, the magnetic storms on the earth may be legitimately attributed to the disturbance on the sun. Two independent elements may sometimes change at the same time; but if they continually vary together, always changing in the same proportion, each reach-

ing its maximum or its minimum simultaneously with the other, we feel sure that their connection is not accidental but essential.

Method of residues. — And finally we may use what is called the Method of Residues. This method was used by Archimedes when he demonstrated that the king's crown was not made of pure gold. He weighed it in air and then in water, observing how much of its weight it lost. Then he calculated how much it should have lost had it been of pure gold, and discovered that there still remained some loss unaccounted for. This residual effect he could attribute to the only remaining admissible cause — the presence of some light alloy. By a like method the planet Neptune was discovered. Uranus was found not to move in the orbit which the attraction of the known heavenly bodies would require. It was seen that there must, therefore, be, as a remaining cause, some unknown body whose attraction could explain the remaining effect. The position of this required planet was calculated and the result was the discovery of Neptune. Similarly if one had an unusual attack of indigestion and were looking for its cause one would expect to find it outside of those elements of which the effects were known to be otherwise. One would consider that it could not be the bread, or the potatoes, or the meat, for these he had eaten frequently and had experienced no such result. It must, therefore, have been due, one concludes, to the doughnuts, since they are the only remaining possible cause.

The methods of clarifying your ideas which have been discussed in this chapter are not, of course, new methods which you have never used before. You have used them all repeatedly. Everybody has. But if they are consciously recognized and brought under control, especially at certain critical times, they can be made much more effective in freeing ideas from the chaos and confusion which usually characterize them.

EXERCISES

1. As you think back over your experience do you see that you have always been using the methods here described? What difference, then, could the study of this chapter make in your thinking?

2. The neglect of what factor particularly, do you think, is responsible for a person's clinging to a superstition which he could easily disprove?

3. Can we be absolutely certain that the conclusions reached by the methods described in this chapter are universally true? What are the conditions under which this certainty will be greatest?

4. Do Mill's methods give us our start in finding our cause, or must we begin with the method of hypotheses described earlier? Illustrate.

5. Describe the method by which you would test your supposition that mathematics trains the reasoning powers. Which of the Experimental Methods have you proposed using? Show what precautions must be observed.

6. Tell which method is used in each of the following examples (all taken from Hibben):

(a) If a beam of the sun's light is passed through a prism, a colored band nearly five times as long as it is broad results. Newton tried several experiments in which he varied the size of prism, and the quality of the glass; he also passed the beam through various parts of the same prism, and tried other minor suppositions. But in all these cases there was the same color effect produced.

(b) Hawksbee, in 1715, first noticed that by striking a bell in the receiver of an air-pump, the bell was heard when the receiver was full of air; but when the receiver was exhausted, no sound was heard.

(c) Also it was found that as the air was gradually admitted into the receiver, the sound of the bell grew louder and louder.

(d) With various kinds of polished metals, no dew is deposited; but with various kinds of glass, having highly polished surfaces, dew is deposited. Therefore, the deposit of dew is affected by the kind of substances themselves.

(e) Nitrogen obtained from various chemical sources is of uniform density; in 1894 Lord Rayleigh and Professor Ramsay, noting the fact that atmospheric nitrogen is about one half per cent heavier, were led to the discovery of a hitherto unknown substance which received the name of *argon*.

CHAPTER X

THE PITFALLS OF REASONING

Euthydemus replied: And do you think, Ctesippus, that it is possible to tell a lie?

Yes, said Ctesippus, I should be mad to deny that.

And in telling a lie do you tell the thing of which you speak or not?

You tell the thing of which you speak.

And he who tells, tells that which he tells and no other?

Yes, said Ctesippus.

And that is a distinct thing apart from other things?

Certainly.

And he who says that thing says that which is?

Yes.

And he who says that which is, says the truth, and therefore Dionysodorus, if he says that which is, says the truth of you and no lie.

Dangers in reasoning. — The above conversation, from the days of the Greek Sophists, shows how subject to subtle error are even the seemingly most exact forms of reasoning. Indeed, unless formal reasoning is carefully guarded it is likely to lead to as distorted and erroneous results as the loosest sort of unorganized thinking. Its "since" and its "therefore" give it a degree of plausibility that is hard to combat, and often carry for it a conviction to which its soundness does not entitle it. Almost anything can be proved with a show of logic. There is even a famous mathematical method of proving that one is equal to two. Now formal reasoning we neither can, nor would wish to, forego, but it is worth our while to know its pitfalls and to guard

against them. This subject is, of course, too big, and involves too many technicalities, to be adequately treated here, and for a fuller discussion the reader is referred to textbooks on Logic. Nevertheless it is hoped that some of the more serious pitfalls may be successfully pointed out here.

MATERIAL FALLACIES

Accident. — There is a famous old syllogism to this effect :

What you bought yesterday you eat to-day.

You bought raw meat yesterday.

Therefore you must eat raw meat to-day.

Another, illustrating the same fallacy, is as follows :

Pine wood is good for lumber.

Matches are pine wood.

Therefore matches are good for lumber.

Now these syllogisms both look plausible enough, yet one knows that the conclusion does not follow properly from the given facts — or premises as they are technically called. Why? For this reason: in the premise "What you bought yesterday you eat to-day," one refers only to the essence of the material purchased — its general nature. One does not have in mind at all its accidental properties. That it is cooked or uncooked is a matter to which one's attention has not gone. In the second premise, however, "You bought raw meat yesterday," the emphasis is upon the unessential feature that it was raw. Between the premises one's attitude has vitally shifted. The first premise hinges upon the essence; the second upon an accident. In the second syllogism the same shifting takes place. Pine wood is good for lumber only in essence — when other conditions are normal. But matches do not represent an essential form of pine wood, but a highly accidental one. Here again the fallacy grows out of a shifting of viewpoint. This shifting from the essential to the unessential, or from the unessential to

the essential, gives rise to what is called the *Fallacy of Accident*.

Accident in popular reasoning. — Now it would be a matter of little consequence to know of this error if the fallacy were confined to such glaring cases as those of the above illustrations. But unfortunately it occurs constantly in the most subtle forms, and perhaps daily we are misled by it. We are urged to vote for Mr. P. because he is a Republican, and because Republicans should stand by their party. But when we admit that Republicans should stand by their party we mean only so long as the point at issue is the essence of Republicanism. In this case, however, Mr. P. may be a notorious political boss, and his attitude may not be representative of the inner heart of the Republican Party at all. In the one premise the matter turns, then, upon the essence of Republicanism; in the next upon a mere peculiarity of a member of that party. And thus in attempting to drive the conclusion upon us the *Fallacy of Accident* has been committed.

Again we admit that students should be loyal to their schoolmates. But that means when conditions are normal. If the matter comes to turn, as it often does, upon the accident that this particular schoolmate has been clearly in the wrong, the general proposition no longer necessarily holds. To attempt to claim support under these abnormal conditions is to commit the *Fallacy of Accident*.

Converse accident. — A similar error led to the former insistence upon every one's studying Greek. A very few persons derived a high type of culture from this study — those who had the necessary temperament, and who could stay by the subject long enough to get into the spirit of it. But because it had proved good for them it was urged as good in general and for everybody, despite the fact that the premise upon which this conclusion rested represented an accidental and not a general condition of the study of Greek.

Between the premises the shift was made from the accident to the essence, just as in the cases cited above it was made from the essence to the accident.

Composition. — There is a second fallacy into which we are all prone to fall. We may best understand it if it is approached through examples. European countries as a whole have always distrusted a democracy. They rest this distrust upon the fact that most voters are ignorant, and that hence the aggregate vote is an ignorant vote. But any one who has had anything to do with groups knows that one can pretty safely trust the conclusions of any fairly large number of men, provided conditions are normal. For some will be erratic in one direction while others are erratic in another. They will thus offset each other and will be characterized as a group by a quality that does not belong to any one of them individually. In like manner the verdict of a jury may be trustworthy, though that of each member taken separately would be highly untrustworthy. A mass of testimony, too, may be as a whole conclusive, even though all of its parts taken separately may be subject to legitimate doubt. Thus the ignorance of the whole voting population, or of the whole jury, does not follow from summing up the ignorance of its individual members, nor the untrustworthiness of the whole of the evidence from the untrustworthiness of its several parts. The whole has a character that is more than the sum of the parts. To assume the opposite, and to draw a conclusion regarding the whole merely by aggregating its several parts is to commit this second kind of fallacy — the *Fallacy of Composition*.

Illustrations. — This fallacy is further illustrated by the stock arguments in favor of a high protective tariff. A high rate on wool is advantageous to the sheep raiser, a high rate on manufactured goods to the manufacturer, a high rate on beef to the meat packer, etc. Therefore, it is concluded, a high rate on everything at the same time would

be an advantage to us all. This conclusion overlooks the fact that, while we might profit severally by these protective duties, they may be of no profit to us when all are taken together, since what we would gain for ourselves would be offset by the higher prices which, in consequence, we would have to pay for what we purchased.

Athletes sometimes commit this fallacy when they indulge individually in "grandstand feats." As a matter of fact the most hopeless sort of team is that one in which each member attempts to "star." Good team playing does not result from an aggregation of the spectacular feats of individual members, but from their subordination to the unity of the group. Whether in acting, or in thinking, or in feeling, every group is much more than the aggregate of its members, and whoever attempts to treat it merely as an aggregate inevitably fails in the undertaking.

Division. — There is also a converse fallacy to this one of composition — namely, the *Fallacy of Division*. It is exactly the reverse of *Composition*. What is true of the whole is not necessarily true of the parts. From the fact that Congress passes a measure it does not follow that member B is responsible. If a town is boorish, Jones, who lives there, is not necessarily so. If an education as a whole is valuable, it does not follow that every one of the subjects studied in getting it is worth while. If a crowd is unreasonable, the conclusion is unwarranted that its members, when taken aside, will be. The parts are no more miniature representations of the whole than the members of an animal's body are duplications of that organism. To assume that they are, and to attempt to pass from the whole to a conclusion about the parts, is to commit the fallacy of Division.

Begging the question. — A sermon which I once heard illustrates a fourth fallacy. The sermon was based upon the text, "All scripture is given by inspiration of God, and is profitable for doctrine, for reproof, for correction, for in-

struction in righteousness," and was intended to prove the authority of the Bible. The preacher's argument was that the scripture must be true, in every detail, because the text plainly says that *all* scripture is given by inspiration of God. Now, without passing any opinion upon the subject matter in question, it is clear that the preacher did not fairly prove his point. For he based his proof upon the authority of the text, and that the text was authoritative assumed the very authority which it was the preacher's purpose to establish. So he was merely going around in a circle. Had any one needed a proof for the conclusion he would not have found it in the sermon, since he would certainly not have admitted the premises (the starting point) of the preacher.

Now this is typical of a great deal of reasoning. One assumes as a starting point the very thing which he is to prove, or something so nearly equivalent to it that it amounts to the same thing. This constitutes the fallacy of *Begging the Question*. It is committed either when one merely goes around in a circle, as our preacher of the above illustration did, or when one starts with premises that would not likely be accepted. Every one, in giving proof of a thesis, must rest that proof upon something which others are willing to admit. If he does not do so, his conclusion may legitimately be rejected. Any one has a right to ask about an advocate's premises two things: "Do they contain in another form what he is to prove?" or "Do they assert what I do not regard as sufficiently well established, and am hence unwilling to grant?" If they do, the fallacy of *Begging the Question* may be properly charged.

Non sequitur. — The fallacy called *Non sequitur* (it — that is, the conclusion — does not follow) results when one attempts to draw from premises a conclusion which they do not warrant. Thus, if one should hold that the ideal man does not need law, and should infer from that premise that laws and governments should be abolished,

he would commit this fallacy. Similarly if he should argue that, because music or the classics are not commercially useful, they should be thrown out of the curriculum; or that, because a theater provides rag-time entertainments, its doors should be closed, he would be guilty of the same error. The premises are not, at least without further elaboration, sufficient to justify the conclusion. This fallacy is very frequently committed, and we must all watch ourselves if we would keep free from it.

Irrelevant conclusion. — A story of a youthful decision by Cyrus illustrates a sixth fallacy. A large boy, wearing a coat too small for him, accosted a small lad with a coat too big, and compelled him to give the too ample coat in exchange for the smaller one. A dispute arose and Cyrus was appealed to as arbiter. This future king decided in favor of the forced exchange. He argued that each now had a coat which fit him, and that consequently the exchange had been mutually advantageous. But the point at issue was not whether the exchange had been advantageous but whether it had been just — a very different thing. A wholly irrelevant conclusion had been palmed off as the one to be established. Such an argument, which does not squarely meet the issue, is called technically by the rather formidable name, *Ignoratio Elenchi* — that is, ignoring the point at issue. If you wish a simpler name you may call it the *Fallacy of Irrelevant Conclusion*.

Illustrations. — This fallacy is very frequently committed. It is a common resort of a man who must defend a weak case. An attorney who is unable to convict a prisoner on the basis of the evidence may try to move the jury to an adverse judgment by picturing the awfulness of the crime with which he is charged. A candidate for office, instead of arguing his own fitness or describing his policies, will rest his case upon a bitter attack on his opponent. An attorney is said to have handed to the barrister a brief

marked, "No case; abuse the plaintiff's attorney." A speaker who lacks the solid stuff to carry conviction will, in a clever substitution, jolly the audience. A boy who has dishonored himself will justify his error by observing that other fellows do the same. A girl, charged by another with improper conduct, will reply, "You're just as bad." Or, instead of giving proof of any point, one will appeal to authority, or to pity, or to popular prejudice. All of these arguments make no effort to establish the conclusion which the situation would require. They are about something altogether different, and win their way only by the dishonest expedient of turning attention from the point at issue. For this fallacy of *Ignoratio Elenchi* one can well afford to be continually on the lookout, both in his own thinking and in that of those with whose arguments he is obliged to deal.

FORMAL FALLACIES

All of the above fallacies are grouped together by logicians into one class. They all have to do with something in the content of the reasoning, and are hence called *material* fallacies. There is, however, a second class which is, historically at least, as important as the above, if not more so. They are the so-called *Formal Fallacies* — those which arise out of the grammatical "shape" into which the reasoning is thrown. Only four of them will be treated here.

Illicit middle. —

He believes that it is wrong for the capitalist to take profit from the laborer.

The Socialists also believe this.

He must therefore be a Socialist.

Such a syllogism sounds rather convincing. It follows the analogy of the mathematical scheme,

3 a equals 4 y ,

6 x equals 4 y ,

Therefore 3 a equals 6 x ,

in which we have all learned to have implicit faith. If, however, we apply this same form to a palpably absurd syllogism our confidence in the universal trustworthiness of conclusions thus reached is justly shaken. Such absurd syllogism would be the following:

Men are bipeds.
Birds are bipeds.
Therefore men are birds.

Why is it that this syllogism breaks down? It is because men and birds, though both falling within the class

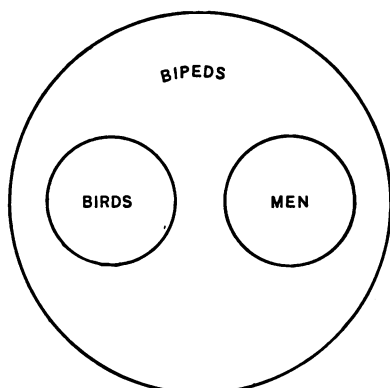


FIG. 20.

of bipeds, need not necessarily fall together. If we picture the whole number of bipeds by a large circle and all birds and all men by smaller circles (see figure 20), it becomes clear how both can belong to the same class without being identical. One falls in one part of the class bipeds and the other, in another. Each of them comprehends only a part

of the class to which both are referred, for when we say that all men are bipeds room is left for the fact that other things might be bipeds as well. If, however, we say,

Men are bipeds,
All bipeds are animals,
Therefore men are animals,

the fallacy can not appear. For in this case we speak in the second premise of all of the bipeds, and leave no such room for shifting as the first syllogism admits. Wherever you speak in both premises of only a part of the class to which

your other two terms are referred — the so-called middle term — you commit a fallacy. Where you speak in at least one premise of the whole of it you keep free from that error. Figure 21 diagrams the valid case. The fallacy here described is called that of *Illicit Middle*, also *Undistributed Middle*, that is, a middle term of which the whole class is not used.

Recall now the syllogism above :

He believes that it is wrong for the capitalist to take profit from the laborer.

The Socialist also believes that it is wrong for the capitalists to take profit from the laborer.

Therefore he must be a Socialist.

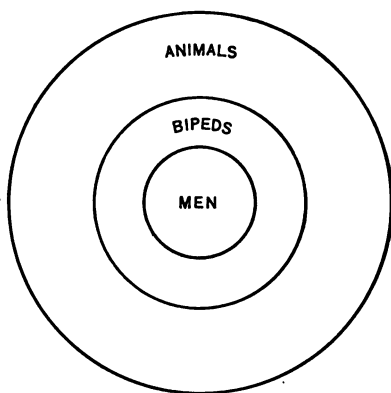


FIG. 21.

Here, too, you will notice that in no case do you speak of all the persons who hold the opinion in question. When you say that Socialists believe so and so you leave room for others to do likewise, and so do you when you say, "He thinks, etc." The whole of your middle term is not used in either case, and you have, in consequence, committed the *Fallacy of Undistributed Middle*. Herbert Spencer fell into the same error when he argued that, as both society and biological organisms grow, society must be a biological organism, and we always commit it when we reason after the manner that, as both Methodists and Lutherans baptize infants, they must be essentially the same.

Shifting terms. — A fallacy closely related to this of *Illicit Middle*, but usually going technically under a different name, is committed when the middle term is taken in two different senses in the two premises. In any language

in which a word may have two or more meanings, as is the case with our own, it is easy to slip into that fallacy, and the more so when the two meanings differ by only a slight shade. An illustration, where the fallacy is obvious, is this:

No designing person ought to be trusted.
Engravers are by profession designers.
Therefore they ought not to be trusted.

One involving the same error, but where it is a little more concealed, follows:

The right should be enforced by law.
The exercise of the suffrage is a right.
Hence it should be enforced by law.

Here it is still obvious that the word *right* is used in different senses in the two premises. We meet, however, many cases where the shift in meaning is so slight, and so surreptitiously made, as not to be easily detected and hence likely to mislead any but the most alert.

Illicit distribution.—A third kind of formal fallacy is called *Illicit Distribution*; that is, improperly extending a term. It is illustrated by the syllogism:

We Baptists are truly Christian.
You are not Baptists.
Therefore you are not truly Christian.

In the first of these premises only a part of those who are truly Christian are spoken of. The term might include others as well. You could evidently say Methodists, Presbyterians, etc. are truly Christians without in the least disturbing this premise about the Baptists. But in the conclusion the whole class is involved. "You are not any of the whole group." The extent of the term "true Christian" has therefore been improperly increased from part to whole. But quite evidently no one is justified in drawing a conclusion about more than his premise has contained.

Here is a similar example: "All the Democrats vote

for the candidate, but, as John is not a Democrat, he did not vote for him." Also, "The students in our school are all right; but, as you are not a student in our school, you are not right." The comment is unnecessary that a great deal of reasoning is of just this kind, though most of it is unexpressed in words.

Negative premises. — And finally, a fourth formal fallacy is that of *Negative Premises*. If you say x is equal to y , and y is equal to z , you can evidently conclude that x is equal to z . In like manner, from the fact that x is equal to y , and y is not equal to z , you know that x is not equal to z . But if you have it given that x is not equal to y , and z is not equal to y , no conclusion whatever can be drawn. The fact that they are both not y does not inform you whether they are the same or different. Similarly, if you say that the French are not Germans, and that the British are not Germans, you can not tell from the premises whether or not the French are British, any more than you could tell whether or not two women are friends from the fact that both are enemies of a third woman.

Nevertheless, this fallacy of negative premises we are often tempted to commit. From the fact that the Progressives are not in sympathy with the Democratic administration, and that the Republicans also are not in sympathy with it, we take them to be essentially one, and, forsooth, hope for their combination. Likewise, we reason that Anarchists are against the present governmental scheme, and so are Socialists, and that hence they must be about the same; or that two pupils who both hate Latin will sympathize with each other in liking commercial subjects. A thing is made what it is primarily by its positive qualities, and no agreement between terms as to the positive attributes can be inferred from their mutual exclusion of any other term or attribute. Of the two premises upon which the conclusion is based at least one must be positive.

FALLACIES IN INDUCTIVE REASONING

In many other ways, too, which can only be mentioned here, our reasoning is subject to error. We may not carefully observe the facts upon which our thinking is based. We may pass blindly over many relevant ones, selecting only those which tend to prove our point, or we may, out of our prejudices, so apperceive our facts as to seriously distort them and thus vitiate our results. A few casual observations may serve us as a basis for a wide generalization. Such hasty generalizations are illustrated by an estimate of a man's character based upon a day's observation, or by those marvelous accounts of "The West" which, grounded upon a few days' experience in one or two towns just beyond the Mississippi, the hero of travel narrates to a roomful of admiring auditors. Or we may permit our emotions, or our personal interests, or our idiosyncrasies, or convention, or imagination, to mislead us. Or we may conclude, as nearly every one is disposed to do, that because an event occurred just before another the former was the cause of the latter. "*Post hoc ergo propter hoc*," we reason to ourselves. The ship which started on Friday met an accident; hence starting on Friday, we falsely reason, was the cause of it. Your nose stopped bleeding after you tied a red yarn string around your finger; hence that treatment was efficacious. A change in weather followed a change in the phase of the moon; hence the moon's change occasioned the change in the weather. And in this same way we do much of our reasoning where the fallacy is not so obvious, and deceive ourselves and others in consequence.

Summary. — Quite evidently our reasoning is as much in need of watching, if we would safeguard ourselves against bias and confusion, as we have already found apperception and conception to be.

In order to fix a little more definitely the facts of this far

too hasty survey of fallacies the following (incomplete) outline is appended.

I. Material Fallacies.

- (a) Accident.
- (b) Composition.
- (c) Division.
- (d) Begging the Question.
- (e) Non Sequitur.
- (f) Ignoratio Elenchi, or Irrelevant Conclusion.

II. Formal Fallacies.

- (a) Undistributed Middle.
- (b) Shifting Terms.
- (c) Illicit Distribution of a Term.
- (d) Negative Premises.

III. Fallacies of Inductive Reasoning.

- (a) Inadequate Observation.
- (b) Hasty Generalization.
- (c) Fallacies due to Individual Prejudices.
- (d) Post hoc ergo propter hoc.

EXERCISES

1. Besides the ones illustrated in this chapter the following are important fallacies: look them up in a textbook on Logic: illogical Obversion or Conversion; Accent; Denying the Antecedent, or Affirming the Consequent; Imperfect Disjunction; and Complex Question.

2. Do you see any advantage in pointing out fallacies by *name*?

3. Tell which fallacy is committed in each of the following (all taken from Hyslop).

(a) All valid syllogisms have three terms.

This syllogism has three terms.

This syllogism is therefore valid.

(b) Mathematical studies undoubtedly improve the reasoning powers; but as Logic is not a mathematical study we may conclude that it does not improve the reasoning powers.

(c) I will not do this act because it is unjust; I know it is unjust because my conscience tells me so, and my conscience tells me so because the act is wrong.

(d) He who calls you a man speaks truly; he who calls you a fool calls you a man; therefore he who calls you a fool speaks truly.

(e) The Quaker asserts that if men were true Christians and acted upon their religious principles there would be no need of armies; hence he draws the conclusion that a military force is useless, and being useless is pernicious.

(f) Whoever intentionally kills another should suffer death; a soldier therefore who kills his enemy should suffer death.

(g) The people of the country are suffering from famine, and as A, B, C, are people of the country, they must be suffering from famine.

(h) Every incident in the narrative is probable, and hence the narrative may be believed since it is probable.

4. Give examples of fallacies in inductive reasoning.

CHAPTER XI

CONTROL OF CONDUCT THROUGH IDEA

An experiment with mental telepathy. — Some English entists had been investigating mental telepathy — the pposed power of direct thought transference whereby one ind can affect another at a distance in such a way as to make e second mind think the thoughts of the first. They had it two persons at opposite ends of a corridor, had set one these to thinking intently to himself about some number, nd had kept an exact record of the frequency with which the her subject could guess the number of which his partner as thinking. They had found a much larger number of ght guesses than chance alone would explain, and had conuded that there must be some sort of transfer of thought.

But two Danish experimenters, Hansen and Lehmann, were onvinced. They believed that the communication had en through the ordinary physical means and not through me occult psychical ones — that in spite of himself the tive subject had somehow expressed his thought in words. o test this hypothesis they resolved to focus the sounds ade by the thinker, if there really were any, and thus rengthen their effect upon the receiving subject. And, re enough, when they put the two subjects at the foci of o focusing mirrors they found the number of right guesses greatly increased that they could no longer doubt the et that the thought had been transferrèd in the ordinary y — by means of articulate sounds. The fact was that e thinker, in spite of his sincere attempt to obey instructions

not to whisper, was doing so involuntarily with every expiration of breath from his lungs. As he thought the number intently he automatically set his vocal chords and organs of articulation in such a way as to express it, and the air breathed out with every expiration was enough to make slight sounds. When focused these could be heard and unconsciously interpreted even better than before.

Other evidence of motor nature of ideas. — This experiment is only one of many which show how closely idea is

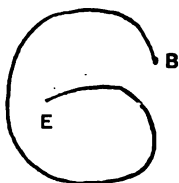


FIG. 22.

The figure on the right is the graph traced unconsciously by the hand of a subject watching another make the drawing on the left. (Taken, by permission, from Stratton's *Experimental Psychology and Modern Culture*.)

related to act. The discovery of this close relation is one of the great achievements of modern psychology. To cite further illustrations, if one rests one's hand upon a planchette — a very easily moved writing table — and then thinks intently of some object in a certain direction, his hand will unconsciously and involuntarily move in the direction of the object. If he thinks of drawing a certain figure, or watches some one draw it, he will unintentionally trace its outline. If he speculates upon the weight of a body, his muscles will grow tense as if to lift it. It is upon

feels itself in movements of the hand which the operator is holding, and by skillfully interpreting these, he picks out his way. The attendant's mental state, in spite of his caution, is expressing itself in action.

Even when consciousness does not manifest itself in some such external way it still has its motor effect. Studies with the plethysmograph and the pneumograph show that the distribution of the blood, rapidity of the heart beats, and the character of the breathing are affected by mental activity. There is besides doubtless an influence upon glandular action, and certainly a change in tension throughout the entire muscular system. If we could get at all the motor elements involved — subtle as well as obvious — the psychological generalization that there is no mental state without its corresponding motor side would doubtless be completely verified.

All ideas dynamic. — The motor tendency of ideas is evidenced at every turn. Only in rare cases do we, even as normal adults, stop to consider whether or not we shall act as we do. If we see a lead pencil on the ground we automatically stoop to pick it up. When we sit down to the table the general idea of taking our meal is sufficient to start us on the necessary detailed activities. The thought of hitting at the ball itself sets off the muscular efforts to do so. The recognition that it is class time starts us on our way. Even when we have long deliberated upon a bit of conduct our decision gets carried into effect merely by the favored idea's ultimately dominating consciousness unopposed. We hesitate only as long as neither alternative can get undisputed sway. As soon as one gets undivided possession of our consciousness it projects itself right out into the conduct to which it points. The idea itself is motor. If only the right idea is implanted with sufficient firmness and predominance the desired conduct will be directly and inevitably forthcoming. Professor James says :

We may then lay it down for certain that every representation of a movement awakens in some degree the actual movement which is its object. . . . Consciousness is in its very nature impulsive. We do not first have a sensation or thought and then have to *add* something to get a movement. Every pulse of feeling is the correlate of some neural activity that is already on its way to instigate a movement.

Our sensations and thoughts are but cross sections, as it were, of currents whose essential consequence is motion, and which have no sooner run in at one nerve than they are ready to run out at another. The popular notion that consciousness is not a forerunner of activity, but that the latter must result from some super-added "will-force," is a very natural inference from those special cases in which we think of an act for an indefinite length of time without action taking place. These cases, however, are not the norm; they are cases of inhibition by antagonistic thoughts. . . . Movement is the natural immediate effect of feeling, irrespective of what the quality of the feeling may be. It is so in reflex action, it is so in emotional expression, it is so in the voluntary life.

Conduct follows attention. — And so, whatever has lodged itself in the center of consciousness is dangerously (or perhaps happily) near to expression in conduct. The problem of controlling action therefore reduces itself to the more specific one of controlling thought — of directing attention. "To think," says Professor James, "to sustain a representation, is the only moral act." If we can keep our attention fixed in healthy directions — upon ends which embody our ideals — right acts will follow as a matter of course. On the other hand, if attention goes to matters which are for us temptations to evil, the giving of the attention is the beginning of the act itself. If the act does not at once follow, it is only because some counter idea is yet present near the focus of attention to block the free egress of the motor impulse which the idea is tending to launch. And just as soon as this inhibiting idea weakens for a moment — just as soon as it can be coaxed or argued into some sort of temporary lethargy — out into the *unfortunate conduct* shoots the victor idea.

And so the essential thing is to get attention away from the undesirable end. It is useless to keep thinking about the matter and yet trying, by direct repression, to fight down the tendency to yield. Your safety lies in forgetting the temptation rather than in openly resisting it — in replacing it in consciousness by other ideas which point in a different direction — in meeting the temptation, that is, by substitution.

Self-control through substitution. — This is, of course, not easy to do, for all the laws of association of ideas are likely to be working to recall repeatedly this unfortunate idea to mind, until you have become so worn out by its continual pecking that you indulge it to get rid of it. Often, however, a substitute troupe of ideas can be brought in by force of will to expel the intruder. You can voluntarily launch yourself upon a new course of thought, and hold yourself to it long enough to enable it to get entire possession of you. Or you can sit down at your desk and begin at least the motions of studying, with the assurance that these motions, if seriously carried on, will soon launch you into absorbing study. Or you can take down an interesting book for reading, especially a novel of the idealistic type, and turn to its most sobering and inspiring chapters. Or, if all of these expedients fail to dispel the dangerous idea, you can take a walk in the open air. There is no other time, perhaps, at which one's thinking tends to be so healthy and idealistic as when he is walking briskly along a relatively unfrequented street or through an open country road. From such a walk you are almost sure to come back with the old temptation completely dislodged from consciousness, and with your mind sufficiently full of ambitious projects to carry you through many succeeding hours.

Imitation. — This fact that consciousness is dynamic also explains why one's surroundings have such an influence upon him. Psychologists have come to recognize that we

are all continual imitators. Nor is this true, as was once supposed, only of children and of the weaker adults. We all imitate — genius as well as dolt — and we can scarcely say that those on one level of intelligence do it more than those on another. There is indeed nothing in our environment, to which we give attention, from the swaying of a pendulum to our hero's *modē* of thinking, that we do not tend to reproduce in our own conduct. This is plainly due to the fact that the matter attended to gets into the center of consciousness and, since all ideas are motor in character, is at once disposed to express itself in conduct.

Suggestion. — When this objective presentation of a plan of action becomes somewhat more articulate and ideational in character we call it suggestion. Such suggestion wields a power in conduct that we seldom realize. Only a small part of our conduct is really of our own making; the great part of it follows suggestions from others. For these suggestions lodge ideas in our minds, and such ideas drive us right on into the acts to which they point. Of course we are not aware that these ideas have been induced from without. We believe that we have constructed them from within. Indeed otherwise we would resent them as an intrusion upon our individuality. It is just this respect in which control through suggestion differs from that through compulsion. Whoever can skillfully employ suggestion, especially indirect or, as Professor Ross calls it, "slant-wise" suggestion, can determine the action of his fellows often with as great certainty as if he held absolute authority over them, and with infinitely less friction.

Influence of Suggestion. — So the environment in which we are placed is sure to be a big factor in our lives. We can not escape its effect. Every day we are influenced by some sort of suggestion. Even where we appear to have resisted external contributions we are still affected by them. We may reject advice that is given us, yet it is still present

in one way or another as a factor in spite of us when we come to a decision. A friend offers us a cigar, or proposes a walk, or suggests a prank, and we agree, feeling perfectly free in the matter. Yet we are not as free as we think; it is the idea, for the presence of which our friend was responsible, that is working itself out in our conduct. Our opinion of a person or place, our appreciation of a work of art, our political or other partisan attitudes, and our estimate of ourselves, are far more largely colored by suggestion from others, and by imitation of them, than we usually realize. Indeed a surprisingly large number of our acts we can trace back directly to some suggestion which lay concealed in consciousness until a fitting occasion called it forth, and if we could get at the subtle factors that are involved we should doubtless be able to trace many more to such outside influence. The writer, at least, has been able time after time to find the source of certain important acts in his life in suggestions received from others. At the time of their performance they seemed perfectly free and original, yet reflection showed clearly that they had come into the mind in consequence of an earlier suggestion and had almost automatically slipped out into conduct.

Persistent suggestion.—And that one is greatly, though subtly, influenced by suggestion, is the more true if such suggestion is persistently recurrent. No matter how strong one may be, he can not withstand suggestion that is repeatedly impinging upon him. Sooner or later he will yield to it. It is, for example, said, by liquor license advocates, that no one need enter the saloon on the corner unless he wishes. But that is untrue. It stands there as a constant suggestion. Every time one passes that way it puts into his mind the idea "take a drink." This he may or may not be able to quell for a time but, if he is young and plastic, or if he is on the ragged edge of sobriety, at some moment when physical weakness makes him unusually suggestible, or when some

friend at the critical time reënforces this standing suggestion with the invitation, "Come, let's have a glass," the idea thus thrust upon him will work itself out, and he will be by the bar with the cup in his hand almost before he knows it. Similarly no one can put himself in a position where he is subject to the repeated invitation to "have a smoke," "come and have a good time," etc., without being in the most serious danger of ultimately acquiescing. He may resist a dozen times, or fifty times, but ultimately he is almost sure to accede. The idea, from having been so often in consciousness, ultimately gets a hold, and when once in possession there its pathway to action is short and easy.

Influence of environment. — But whether the situation be articulate in the form of words or merely mute model, it will, especially if persistent, have its subtle effect. It is next to impossible to have any kind of conduct battering upon one's senses without one's ultimately assimilating it as his own. Since, then, environment so largely makes a man, it is extremely important to select a favorable one. One should be careful about the companions with whom he associates. If they are slovenly, he will soon, in spite of himself, become slovenly too; and if they are tidy he will find himself polishing up. If they are loose morally he will gradually relax his moral fiber; and if they have high ideals his will rise to meet theirs. He will ultimately be religious or irreligious, industrious or lazy, gentlemanly or boorish, according as his constant companions are one or the other. He may not rise quite as high or sink quite as low as they, but it is next to impossible for him not to become practically like his chums.

But there is another side to the matter. Imitation and suggestion are both mutual processes. If others give to you you give also to them. And herein lies at once your privilege and your responsibility. Here you are creator. It is not alone for yourself that you act. Whether you wish or not

your conduct leaves its tint upon the world about you. It is useless to say that men need not imitate you. They will do so and nothing on earth can stop them — not even themselves. If you walk a little more erectly, your fellows about you will unconsciously straighten up as you pass. If you are tidy in dress and exact in habit, it will have its effect upon others. If you are courteous, and intelligently patriotic, and honest, these virtues will not remain yours alone. If you are sanely pious, you will stimulate the religious nature of your comrades. If you have high ideals, those of men about you will rise a little to meet yours. If you have the spirit of loyalty and honor, it will radiate and set the souls of others to vibrating in unison with it. And if you are the opposite — well, we may pass that by. It is a sad recollection that your conduct will be just as inevitably effective there as on the other side — and indeed even more so.

EXERCISES

1. Why does one tend to "talk to himself" as he thinks?
2. Do you find that your mental behavior, in getting out of bed in the morning or in making a high dive, conforms to that described in the text as normally constituting a decision?
3. One often expresses what is in his mind "before he thinks." Why is this?
4. Is there such a thing as "mind cure"? How could there be?
5. Can auto-suggestion (that is suggestion to oneself) influence one's power in action? How and to what extent?
6. Is there any evidence in fortune telling of the power of suggestion? Does one ever himself help to fulfill the fortune teller's prophecies? What responsibility does this place upon a fortune teller?
7. What is the safest way in which to avoid yielding to a temptation?
8. Is imitation a mark of weakness? Does it necessarily replace originality? What does Stratton mean by saying that "Imitation is a mere schoolmaster to bring us to originality"? (See his *Experimental Psychology and Modern Culture*, Ch. XI.)

9. In the effort to avoid imitating a model that we despise is it well to fight against the tendency to imitate or to treat such temptation lightly? What is the effect of an effort to fight ourselves away from imitating a model? Why?

10. Ernest, who has meditated much upon the ideals expressed in the "Great Stone Face" (Hawthorne's story), and who has long hoped for the coming of a man who should resemble the face, is found at last himself to be the man. Is there any psychological justification for this? Do one's ideals come to express themselves in his face? How?

CHAPTER XII

THE FACTORS IN PERSONALITY

Personality susceptible of analysis. — One of the most potent factors in success in any career that keeps a man before the public is personality. It makes no difference how great a man's technical qualifications for his work may be, if he is lacking in personality the degree of success to which he can attain is limited. Without an effective personal presence he is almost inevitably destined to some subordinate position in which he can supply materials to some one else who has the necessary front to control his fellows. In all work one has a great advantage by possessing a good personality, but in any position of leadership it is indispensable.

Now it is a popular superstition that personality is some mysterious, unanalyzable entity which one just happens to possess. It is supposed to come to those who somehow have the special favor of the gods. But this is not the case. Personality can be readily analyzed into specific factors. Moreover, at least some of these traits can be effectively cultivated. It is therefore important to see to what specific factors a strong personality is due.

Physical appearance. — The first element that we shall mention is physical appearance. Anything that rivets attention strongly upon the person in question gives to him, in so far, the power of control, for we have already seen how attention subjects us to the thing attended to. And among the things that first enlist attention, and thus gain for one the center of consciousness, is something striking about his physical make-up. He may be unusually large

or vigorous in physical stature. It is a well-known fact that this gives him prestige among men. Or he may be strikingly handsome. Or, on the other hand, he may have some peculiarity of facial structure or expression. Or he may wear long or oddly combed hair. If one were to make count he would doubtless be surprised at the large proportion of public men — especially magicians or “fakers” who are largely dependent for success upon a semi-hypnotism of their audience — who are characterized by some sort of exceptional physical traits.

Dress. — One's dress, too, is a factor. The shabbily dressed man makes a bad impression as a rule ; conversely, the well-dressed man strengthens the favorable impression which he makes by the correctness of his clothing. Indeed nothing will cause a professional man loss of public respect more quickly than slovenliness in dress. Of course one does not strengthen his personality by being faddish in this respect — though under certain conditions even this may help him to make his point — but dress good enough to attract favorable notice is no small factor in giving one that confidence in himself, and securing for him that confidence from others, which is so important an element in the power to control.

Health. — Good health, too, is an important factor. Professor Chancellor advises school superintendents to cancel even important engagements rather than appear at them in weakened physical condition. He also urges them to be careful about their rest, their recreation, and their bodily exercise, so as to keep in prime physical condition, contending that physical freshness and vigor is one of the most important considerations in a superintendent's maintenance of his personal prestige. And certainly this contention is true. The strength of one's personality fluctuates to a very large extent with the fluctuation in his physical condition.

Decisiveness. — After physical appearance and condition we may mention decisiveness as a factor in personality. To

waver, to make a decision one minute, the next minute reverse it, and perhaps the third minute go back to the original position, will destroy any person's ability to lead. The most successful men make it a rule to decide an issue once for all. Thereafter it is only necessary to remind them of how they have earlier committed themselves on this matter and their old decision is accepted. I do not mean to say that the strong man will never change his mind, for when new evidence comes up he certainly will stand ready to do so. Consistency is the bugbear of only little minds. But the man with the qualities of leadership will not, out of lack of courage or mere change of mood, waver from one decision to another. From the standpoint of the maintenance of a leader's prestige even a bad decision is better than no decision at all.

Poise. — Again poise is essential. There is a quiet, dynamic kind of waiting which the man of strong personality knows how to exercise. When, as presiding officer over a noisy meeting, or as teacher of a class that has become for the time disorderly, it is his function to restore calm he does not begin to shout in an excited voice, but reinforces his simple signal for order with a forceful period of waiting. But he does not wait in a flabby, passive manner, for during such waiting the group would be without a head, but with muscles tense and an expectation shown in his whole attitude which gives to the crowd an effective suggestion of attention to business. The noisy teacher or presiding officer, or even the noisy member of a group engaged in conversation, only makes the group more noisy. On the other hand, there is a compelling power in a well-controlled voice and a quiet, dignified manner.

Indeed whether one is dealing with a group or with single individuals there are frequently times when "silence is golden." The man whose speech in the assembly carries most weight is not the one who speaks most frequently. It is the man who restrains himself until the psychological

moment in some great crisis has arrived, and then speaks concisely but to the point. He who is rattling off on every occasion soon becomes a laughing stock, and his utterances lose all power of influencing men. In private dealing, too, there is often power in silence. The non-committal man retains his strength because he does not betray his vulnerable points. One does not know how to take him. The very mystery of his taciturnity subdues one. On the other hand, the talkative person betrays, by his chatter, his petty weaknesses and subjects himself to attack and to easy defeat through those channels.

Sense of humor.—In this connection may also be mentioned that feeling for proportion and fitness which we call a sense of humor. Any one who is to deal effectively with his fellows must see large things as large and small things as small. He may not take too seriously incidents of only transient significance. Thus a teacher does well to close his eyes to some things which go on but which really carry no disciplinary dangers in them, and we all need to learn to appreciate a joke that has been turned against us, or to minimize the petty thrusts which we sometimes get. A good-natured laugh is by far the best answer to many an argument. By not becoming offended at these little sallies, but, rather, by manipulating to turn them back good-humoredly upon the aggressor, one can often make an asset out of what would otherwise be a heavy liability.

Self-confidence.—Another indispensable element of strong personality is self-confidence. Until it learns differently the world takes a man at his own estimate of himself. It is impossible for that man to inspire confidence in others who does not have confidence in himself. Of course over-confidence — conceit — will not strengthen but rather weaken one's influence over others, yet a reasonable measure of even this will carry one a considerable distance. But he who has real merit, so that he can sustain a bold front, and

also that self-confidence necessary to induce him to put up the front, has a combination of qualities almost certain to carry him to success. But without both of these he is practically sure to end in ignominious failure.

Belief in value of message. — Closely related to self-confidence is belief in the value of one's message. Demosthenes was made a powerful orator by his intense interest in inducing the Greeks to expel Philip from their country. Many a man has remained flabby and without influence until some cause, in which he had supreme faith, took hold of him, when he became possessed at once of a new forcefulness. An agent can sell his goods best if he thoroughly believes in them. Indeed, in any cause a man can put up the most persuasive argument only when he is wholly convinced that his cause is just.

Extraneous elements. — And finally there are certain extraneous elements that enter as factors into personality. Among these are noble birth, wealth, or important position. Men possessed of these get a hearing attentive and sympathetic far beyond what the intrinsic merits of their message would warrant. Or the fact that one comes from a distant country or from a large city may give him at first a certain power over men. "A prophet," we were long ago told, "is not without honor save in his own country." And finally even unpleasant notoriety may give a person attractive power, as witness the tendency of theatrical companies to employ persons who have had part in some spectacular scandal.

The secret, in short, of personality is largely to attract and hold attention and to inspire confidence. Some of the elements which enter into the ability to do this, like a large stature or noble birth, are beyond the individual's control and hence due to accident. Others, however, like health, dress, decisiveness, are within one's control and, through cultivating them, one can do much to strengthen his personality.

EXERCISES

1. Explain why persons who are greatly lacking in some of the characteristics mentioned above as assets are yet strong in personality.

2. What is the relation between tact and personality?

3. Strong personality doubtless makes for success. Conversely, does success tend to strengthen personality? How?

4. What can one do to cultivate the self-confidence which strong personality demands?

5. What is the effect of small mannerisms upon personality? Of physical defects? Are these insurmountable obstacles? Illustrate.

6. Is it well for one to teach one's first school, or serve one's first pastorate, in his home community? Why?

7. Is it true that, from the standpoint of the maintenance of prestige, a bad decision is better than no decision at all? What, according to your observation, is the effect of wavering?

8. Discuss the relation of "conceit" to personality.

9. Has one a right to argue for any cause in which he does not believe? If so, under what conditions?

10. To what extent is one indebted to fortune, and to what extent to his own will, for his personality?

CHAPTER XIII

THE EFFECTIVE USE OF THE MEMORY

Memory obeys laws. — One day, when talking to my class, I had occasion to use the name of Horace Bentley, a character in Winston Churchill's novel, "The Inside of the Cup." Although I had been reading this book only a day or two before, and although I knew this name perfectly well, I could not at the time recall it. Several hours later it spontaneously came to me when I was no longer searching for it. This sort of experience you have all doubtless often had. The name of a friend, a date in history, a mathematical formula, or some object that you were to get down town, you could not at the time—to your very great embarrassment—recall. Later, when you no longer needed it, perhaps in the very midst of some conversation, the thing suddenly shot up into consciousness. Now why is this? What sort of faculty must the memory be that it can act so capriciously?

As a matter of fact it is not acting capriciously at all. Indeed, there is no function of the mind more obedient to exact laws than the memory. And it is just because it is so completely governed by laws, from which it can not at your convenience break away, that it sometimes so stubbornly refuses to do your bidding.

Association explains recall. — You can get a glimpse of what these laws are if you inquire under what conditions an idea is recalled to mind. If you are trying to recall a forgotten mathematical formula — as, for example, the rule in Algebra for raising a binomial to any given power — you

may first think where, approximately, it is in the book, then recall the chapter in which it occurs, picture the page on which it is developed, try to recollect who recited on it in class, call to mind something the teacher said about it, and so on until one of these ideas brings up along with it either the whole formula or at least its first term. When you have this first term it can usually bring up the second, and then the rest of the formula. Similarly, if you are trying to recall a name, you think over a number of names which you feel to be nearly like it, recall where you last saw the person who owns the name, what some of his peculiarities are, where he lives, who his friends are, and what you have heard them say of him, in the hope that the desired name will be tied to one of these ideas and hence brought into your mind by it.

The fact, then, which makes it possible to get back a forgotten idea is its *association* with other ideas. Every experience that you have ever had which is capable of being recalled, is tied up with one or more other experiences, and if you can get one of these with which it is associated you can recall the one desired. If it stood alone it would be as good as non-existent, for there would be absolutely no means of bringing it back again into consciousness. Hence what you are doing in your effort to recollect is running over the ideas which you think may be connected with it.

And the same thing explains spontaneous recall. When I recalled the name of Horace Bentley it was probably because I had just used the name, Jeremiah Bentham, or even the Christian name, Ben. If you suddenly find yourself thinking of a conversation once held with some friend, you will probably find that this friend was suggested by some passer-by who somewhat resembled him, or by some sentiment that came into your mind which was analogous to one expressed by him, or by some house or book or person which, in your thought, is connected with him. It is an interesting process sometimes to stop and consider how you came to be think-

ing about what just then engages you. You will find in every case that you were led up to it by unbroken steps—except where external occurrences gave a new direction to your thoughts—and that always the next idea came to mind because it was in some way associated with the preceding.

Kinds of Association. — *Similarity.* — The ways in which ideas may be thus associated are really only a few. In the first place things that are similar tend to be associated in mind. The tower on City Hall in Philadelphia will almost certainly call up the Washington Monument, if you have gone up into both, because they are alike in being high. A strange face may call up a face of a friend which in some respects resembles it. One poem may suggest another because they express similar sentiments.

Contrast. — Again things that are strongly contrasted are likely to be associated. If you have seen an unusually short man, and then meet an exceptionally tall one, the image of the former will not unlikely be brought to mind. The idea of a selfish and wicked man is not only likely to suggest other wicked men, but just as likely to bring to your mind one of exactly the opposite character. But really this law of contrast is only another form of that of similarity. For the tall and the short men are alike in being extremes in size, and the wicked man and the good one resemble each other in being interesting character specimens. And so in general every case of contrast is really a case of underlying similarity.

Contiguity. — And, finally, objects which are contiguous (that is, next to each other) are likely to be associated. This is the most important law of association and is called the *Law of Contiguity*. If you meet two men at the same time the idea of one is likely thereafter to call up that of the other. Similarly if you experience two things at the same place—whether at the same time or at different times.—they tend

to be connected in your mind, so that when you later think of the one you are not unlikely to think of the other also. Hence contiguity, either in time or in space, tends to produce association.

But this is really a superficial way of putting this law. As a matter of fact it is not because the objects are together in the external world that they become associated. It is because they are *thought together*. The objects as such may be at the ends of the earth in space, or centuries apart in time, yet if you think one immediately after the other, and think them in relation to each other, they get associated in your mind, so that one will ever after tend to recall the other. Thus if you think together the name, William the Conqueror, and the date, 1066, either one of these will thereafter tend to bring into mind the other. The essential thing about the Law of Contiguity is, then, that the mental states representing the two terms occur together.

Contiguity the fundamental law. — But when one looks at the matter in this way it is evident that all the laws of association reduce really to this one law of contiguity. We can easily see that similarity reduces to contiguity. When a strange face recalls by similarity that of a friend, it is because you have been dwelling upon those features about the face which are identical with those of the friend — the nose or the forehead or the walk that is just his. But these features have always been thought *together with* the rest of the make-up of your friend — his name, character, etc. — and, by the law of contiguity that things previously thought together call each other up, of course bring in these other features and give you the image of your friend. Out of the City Hall Tower you separate *height*; but this you have thought along with the Washington Monument and, following the law of contiguity, the monument is called to mind. So in the last analysis the one fundamental law back of association, and hence back of memory, is the law that states of mind that

have once occurred together tend to be connected and to call each other back into consciousness.

Explained by structure of brain. — A few generations ago that was as far as psychologists could go. They only knew that somehow ideas were associated, but did not know why. But to-day we know the cause. We have learned that it is in consequence of the structure and activity of the brain, upon which memory, as well as the other faculties, depend. Some acquaintance with this brain structure is so fundamental to a knowledge not only of association and memory, but of all other mental functions as well, that we shall stop long enough to examine it. I must warn you, however, that it will carry us a little out of our way and will prove somewhat complex. But when we have once got it we can come back to our discussion of memory with the ability to understand it very much better than would be possible without the interruption.

Localization of cerebral functions. — Did you ever hear the statement that the brain consists of some ten billion cells and that each of these cells is capable of holding one idea? I did, long ago, and was foolish enough then to believe it. Of course it is true that there are probably as many cells as that, but it is by no means true that an idea can reside in each single cell. For if you consider what an idea consists of, you will find that it is no such simple thing as this crude theory presumes. Take for example the idea of *an orange*. It has in it — has it not? — an element of color, and to image that we must use the visual aspect of our thinking. It is three dimensional and of a certain size, and that we appreciate at least partly in the muscular terms of reaching for it and around it. It has a certain touch and weight. Its meaning involves some notion of its taste and smell. And finally when we think it we have a certain tendency to pronounce its name. It is all these different elements running together that make up the idea of *an orange*.

Now that these elements can not all reside in a single cell is shown by the fact, which experimental psychologists have discovered, that different parts of the surface of the brain are given over to appreciating these different attributes. A certain small area of the brain is specialized for receiving visual sensations, and whenever it is active for any cause we get the visual elements of experience. Another is specialized for taste, another for the muscles of the arms, etc. How the brain is divided up for these various functions the following figure will clearly show.

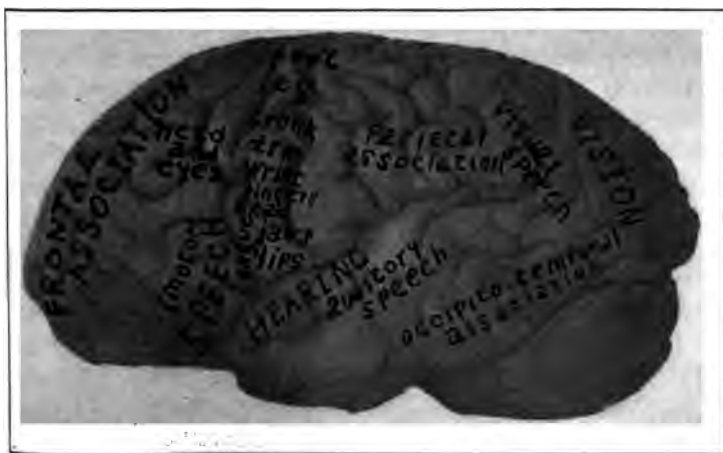


FIG. 24.

Localization of the cerebral function in the human brain.

The parts of the brain given over to these special functions are on its surface. And a wonderful bit of mechanism is this surface of the brain. It is a layer of gray matter about one eighth of an inch thick covering the whole brain. It is made up of nerve cells and is so important that nature has given to us just as much of it as she has been able to find room for. In order that this outer gray layer — the cortex

— may be as extensive as possible it is deeply convoluted (folded) so that its area is amazingly large considering the size of the organ which it covers. How it is possible for so large an area to cover so small an organ you can easily picture to yourself if you recollect how large an area of paper or cloth can be used up by plaiting it.

Nerve fibers. — It is then on specific areas of this cortex layer of the brain that the activities take place that give us the elements of experience. One area, as said above, gives us visual sensations, another taste, another smell, etc. To think *orange*, then, it takes not one little cell, but a half dozen or more different areas working together (if not indeed the whole brain), each contributing those aspects for which it is fitted. But these areas are widely separated from each other. How do they work together to form one idea? They are enabled to do so in consequence of the character of the interior of the brain. This is composed of a white mass which, upon close examination, is found to be made up of numberless fibers which lead out from these cells on the cortex to different parts of the brain or body. Of these fibers there are three sets. One set leads from the cortex of the brain out to the various organs of the body — the eyes, the ears, the arms, the legs, etc., and are the “telegraph wires” which carry messages between the brain and these outer organs. A second set leads from one side (or hemisphere) of the brain to the other side, for the brain is divided into a right and a left hemisphere by a deep fissure, and these connecting fibers enable the two halves to coöperate. But a third — and for our purpose here the most important — set leads from one area on the cortex to another. These are the “association fibers” and they connect every part of the brain with every other part, so that there are no two spots which can not be related by association pathways broken through these connecting fibers.

Hence when we think of the orange spoken about above,

not only is the cortex in the several parts of the brain in action, but these several active parts are connected together in their activity by the appropriate association pathways. And it is doubtless the activity along this whole system of pathways that gives us our idea of *orange*. And thus every idea has its own system of cells and pathways, the activity of which produces it. Stir this system to action in some way and you can not help getting the idea. Conversely, have the idea and the pathways must perforce be in activity.

Neutral basis of association. — Here, then, to return to our discussion, we have the explanation for the law of contiguity in association. Of two ideas that are thus associated each has its own system of pathways in the brain. But when they had been thought together these pathways had made connections — had opened into each other — perhaps as two neighboring river systems might break communicating channels between them. Whenever thereafter mental activity is aroused in the one it tends at once to spread into the other system and set it in action, thus calling forth the associated idea. You have thought Jones and Smith together once. In so doing you have opened into each other the brain tracks that condition each idea. Next time you think of Jones, the activity thus engendered in the brain system appropriate to Jones, will pass over into that system appropriate to Smith and give you at once a mental representation of the latter.

Without doubt the association of ideas is thus complex, consisting of many interpenetrating brain pathways. But for the sake of simplicity psychologists are in the habit of speaking of this connection between ideas as if it were by but a single pathway. For the sake of convenience we shall adopt this conventional way of expressing ourselves; but when pressed for the fuller truth we should, of course, return to the more complicated account of the paragraph above. Ideas, then, in this simple way of putting it, are

associated by reason of the fact that a neural (nerve) pathway has been opened between the two sets of brain centers which respectively condition them. Excite the one and the energy at once runs over this pathway and arouses the other. Thus ideas that have once been in experience can be brought back again into consciousness any number of times through the instrumentality of other ideas to which they are bound through association tracks.

Memory conditioned by association pathways. — Now memory is nothing more nor less than this possibility of recall of past experiences through such association. Every experience not only makes brain pathways but leaves those behind for possible future use, just as the folding of paper or the running of a stream of water over the land leaves effects after it. And so you see that memory has a physical basis. Ideas do not themselves lurk somewhere in mind when you are not thinking them. All that you have is sets of brain tracks which were once used together in a certain way, and which have remained in the brain capable of being again brought into the same sort of use. When they are thus again aroused to activity you get once more in consciousness the same experience which originally broke the pathways. This experience you can recognize as belonging to your own past and thus you have memory. Says Betts:

As memory is the approximate repetition of once experienced mental states or facts, together with the recognition of their belonging to our past, so it is accomplished by an approximate repetition of the once performed neural process in the cortex which originally accompanied these states or facts.

And so there are two conditions about memory which determine its goodness or badness. These are (1) those conditions which have to do with the making and keeping of the pathways that constitute the physical basis of memory, and (2) those conditions which have to do with the *recall of what is retained*.

CONDITIONS OF RETENTION

Retention of pathways.— Since memory is dependent upon brain pathways, it is clear that the deeper and more persistent the pathways the better the memory, other things being equal. But, since the brain is a plastic organ, its material is rearranged as time goes on, so that pathways once made tend to get more and more closed up, and hence less and less capable of effective use. It is true that they never get completely obliterated. No matter how long a time may elapse, nor how many other pathways may run across it, every channel once formed leaves some trace of itself. And so we never absolutely forget anything that has once been experienced. Indeed there are on record some amazing cases which show that persons still had retained, and were able to reproduce under exceptional conditions, what had to all appearances been long ago forgotten. But while it is true that we never absolutely forget anything, yet it is certain that normally all of our experiences gradually fade away for us. As the old philosopher, John Locke, says :

Pictures drawn in our minds are laid in fading colors, and, unless sometimes refreshed, vanish and disappear. . . . The memory of some men is tenacious even to a miracle: but yet there seems to be a constant decay of all our ideas, even of those which are stuck deepest and in the minds the most retentive; so that if they be not sometimes renewed by repeated exercise of the senses, or reflection of that kind of objects which at first occasioned them, the print wears out and at last there remains nothing to be seen.

Law of forgetting.— Experimental psychologists have carefully measured the *rate* of forgetting, and all agree that, after the first few seconds, we all forget very rapidly at first, and progressively but more slowly as time goes on. The first of these psychologists, Ebbinghaus, found that, with very difficult matter to memorize (namely, nonsense syllables), the following percentages had been forgotten at the intervals named :

INTERVAL	% FORGOTTEN	INTERVAL	% FORGOTTEN
20 minutes	41.8	2 days	72.2
1 hour	55.8	6 days	74.6
8 hours	64.2	30 days	78.9
1 day	66.3		

Another investigator, who used similar methods and got similar results, found that after 120 days 97.2 % of the once thoroughly memorized nonsense syllables had been forgotten. Other investigators, working with ordinary matter, such as we frequently memorize, found that the same law holds, only that we forget such matter somewhat less rapidly.

Difference in retentiveness. — There is, however, as Betts says :

A very great difference between brains as to the actual possibility of recall through them. Some brains are "like wax to receive and like marble to retain"; with them every little fact which enters experience is kept seemingly without effort and recalled at will. These are the brains in which great possibilities reside in the way of an efficient memory, and which, if rightly used, will prove a priceless boon to their possessors. Other brains receive impressions much more slowly, but retain well what has been fully given into their keeping. Much study and many repetitions may be necessary in order to get the facts well established, but once completely in mind they are there to stay. These brains are of the steady, plodding kind, so far as the memory is concerned, but will do their possessors faithful service if they are well trained. Still other brains receive impressions but slowly, and retain them poorly. These brains belong to those who must pore over the lesson for a long time, no matter how faithful the work and efficient the methods of study, and from whom — more discouraging still — facts slip away easily, even after they have once been mastered. Heroic effort will be required to make up for the handicap which such a brain is to its owner.

Laws of retention. — Professor James vigorously contends, too, that "this native retentiveness is unchangeable." Nature has blessed some of us above others in this respect, and we must make the best of our handicap. Psychologists on the whole agree with Professor James. If, then, we would

improve our memories it must be done by an intelligent observation of the laws of memory — by acquiring sound methods of study — rather than by strengthening our physiological retentiveness. What, then, are these laws, and what must we do to use them most effectively?

(1) *Vividness*. — The first of these is the *Law of Vividness* — the law that, other things being equal, the more vivid the impression which an event makes the better will it be remembered. That which makes a vivid impression plows deep pathways through the brain, and of course, such pathways persist better, and function more surely, than meager ones. Old Thomas Fuller quaintly says :

First soundly infix in thy mind what thou desirest to remember. What wonder is it if agitation of business jog that out of thy head which was there rather tacked than fastened? Whereas those notions which get in by *violenta possessio* will abide there till *ejectio firma*, sickness, or extreme old age, dispossesses them.

Any one who wishes to impart some fact so that it will be remembered must be sure to take advantage of this law. There are many devices to which one can resort to make his point emphatic. If he is a teacher or public speaker he may reënforce his words with gestures. The points which he wishes especially to have remembered he may make vivid by a special intonation of voice or by pauses. Or he may dwell long upon them, repeating them, amply illustrating them, reënforcing them with emphatic language, or warning the hearer of their importance. Or he may bombard the auditor's mind with them through all the sense avenues. Thus the modern teacher, in teaching a date, or the spelling of a word, may first tell it to the pupils, then write it on the board for them to see, — perhaps with its more important parts in colored crayon, — have the pupils say it over in concert, and finally have them write it several times. Any speaker, too, does well to use the blackboard freely while he talks, so that

what he says may appeal to the eye as well as to the ear. What is thus made vivid in its first impression has a good chance of being retained.

ATTENTION. — From the standpoint of him who is to do the remembering there are several specific things that help to make for vividness in the impression, and hence for permanence of retention. One is *attention*. That to which you give strenuous attention makes a strong impression upon you, and hence a lasting one. On the other hand, that to which you give indifferent attention makes but a feeble impression and soon slips away from you. Loisetete, who for years sold the secret of his memory system at a high price, had as one of his fundamental principles to “train the intellect to stay with the senses,” that is to learn to give attention to what you would remember. Indeed unless you are able and willing to concentrate attention upon what you are to learn you might almost as well not undertake to learn it at all.

INTEREST AND HEALTH. — Closely related to attention is *interest*. What you are vitally interested in you can retain; what you are indifferent about has a very poor chance of being assimilated. Again, *health* is a factor. No faculty of mind responds so quickly to changes in health as does the memory. Indeed under such slight derangement as hunger memory has been shown to fall to as little as 20 per cent of its normal efficiency. Horne says :

Whatsoever quality of native retentiveness is ours by birth-right is diminished in poor health and tends to reach its upper limit of effectiveness in good health. We all know how much better we can remember in good health than in sickness, and how the events of an illness go from us. Thus indirectly, if not directly by practice, we can avail ourselves of whatsoever degree of retentiveness nature has granted us. We despise our heritage of retentiveness when we solicit ill health by poor food, overwork, lack of exercise, bad air, improper clothing, and anxiety. In vain do we neglect physical demands and expect mental returns.

. . . Avoid brain fatigue, particularly before it is to be subject to any trial of memory. In fatigue the brain cells may shrink to half their normal size, and in this condition our associations are fewer in quality, slower in revival, and incoherent as related to each other. . . . Though avoiding brain fatigue, it may be observed that moderate intellectual exercise keeps up the tone of the brain and is better than disuse for the associative processes. A good memory, a good working brain, not so much demands infrequent long vacations as frequent short ones, of which the nightly sleep is the best evidence and illustration.

VIVIDNESS AT RECALL.—And just as vividness is essential for *making* the original impression strong, so it is also essential for maximum efficiency in *recall*. It is said that under some grave danger minute details of one's past life often flash before one which under other conditions it would be impossible to recall. Dr. Carpenter tells of an illiterate German woman who, under the stress of fever, was heard quoting correctly many long sentences in Latin, Greek, and Hebrew. Upon investigation it turned out that, at the age of nine, she had heard an old minister, in whose house she stayed, recite these passages—to her entirely meaningless—as he walked back and forth through his room. They had made some impression upon her, and, in her illness, she was able to reproduce them on account of the high nervous pitch into which her fever threw her. It has often been observed that amateur players remember their parts better on the night of the entertainment, when they are keyed high on account of the excitement of the occasion, than they do in practice. And so alertness is essential at the time of recall as well as at the time of making the impression. If one is indifferent or fatigued, or ill, his efficiency in recalling what he really knows is very greatly impaired. Hence the wisdom of keeping in the best of bodily and mental condition when one is about to be subjected to some severe memory test, such as taking an examination, delivering a speech, or giving court testimony. Frances Gulick Jewett says:

I have two college friends who practice opposite methods of study and have opposite experiences when examination day draws near. One is calm and happy — "Nothing but examinations to-morrow," he says, "so I'll go to the woods this afternoon and see how things are growing." The other is filled with anxiety. "You see it's examination to-morrow," he says, "and I have not a moment to spare. I'm afraid I'll have to study till midnight and even then I don't know how I'll get on. It always seems to be such a matter of luck."

One can not afford thus to go to a memory trial tired out. The slowness with which the memory works when benumbed by fatigue more than offsets what one can learn during the last few extra hours.

(2) *Recency*. — The second law to be mentioned is the *Law of Recency*. Other things being equal, what was last in mind is most readily recalled. When a fact has been but recently in experience the brain pathways which condition it are fresh and open, and it is easy to haul it back again through these into consciousness. None of us can trust those memories which, for long periods, have not been freshened up. Hence the importance of making a review of our facts shortly before we intend to use them. The effective teacher looks over each lesson before he goes to his class. The public speaker finds it wise to go again over his notes at the last moment. The amateur entertainer seizes the last chance for a final rehearsal. Subject, of course, to the condition about fatigue mentioned above, one who wishes to be sure of his ground should, on the basis of this law of recency, take a final glance at his matter just a short time before being obliged to give it.

(3) *Repetition*. — And third is the *Law of Repetition*. Other things being equal, the idea that is most frequently recalled into experience is remembered best. Hence the importance of review. The Jesuits used to say that "repetition is the mother of studies," and conducted their schools on that principle. They reviewed at the beginning and at the close

lesson, gave the last day of each week, the last of each year, and the last two years of the course to periodic review. In consequence of so much repetition, it has been said that the most thorough schools in all history have been able to retain more than 90 per cent of what was learned. This is absolutely essential to memory. It is very easy to learn a thing well enough at the first time to retain it. Yet in this we all suffer from an unconscious illusion. At the moment a matter seems so clearly and so well impressed on our minds that we feel sure we can recall it; yet the next month, or even the next week, when we attempt to recall it, behold, it has vanished. The only way to be sure of retaining it is not to depend upon the first learning, however thorough that may have been, but to repeat it up for frequent review thereafter. It is certainly foolish and economical to spend a great deal of time in learning a bit of history, or a set of theorems in geometry, and then let it slip again out of mind, when from twenty-five to fifty per cent of the time as much additional time spent in occasionally repeating them would fix them in memory. To learn a thing once and then let it go at that is to cease the battle before the enemy is fleeing from the field; to buttress the learning with clinching reviews, is to follow up the victory and gather its spoils. Remember that it is not what has been learned but what is retained, that is of value.

Reviews need not, however, take much time. If the material has once been well learned a skimming is generally sufficient for review. In history, or geography, or physics a glance at the headlines and a glance down through the paragraphs should refresh your mind on what it contains. In mathematics a glance at the figure and a rapid survey of the steps in the proof should suffice. Later reviews may be more schematic. After, say, the second review, a reading of the table of contents, or a slow turning of the pages, should be enough to recall the contents of the

book. Reviews may thus be brief but they should be rather frequent. They may, however, be at increasingly long intervals as time goes on. For example, it may be sufficient to make a first review in about three days, then wait a week before covering the same ground again, then two weeks, then a month, then three months. Experiments are being conducted at present to determine the best intervals for such reviews.

Distributed learning.—In further evidence of the value of frequency of recall in connection with memory is the fact that more can be accomplished in a certain aggregate of time if the work is divided into intervals than if it is done continuously. A poem that is reread two or three times at a half dozen different sittings is usually learned better than if the dozen or dozen and a half repetitions had been made all at once. These intervals allow the mind to settle around the fact that is being memorized. As old Thomas Fuller — already quoted — quaintly says: “It is best knocking in the nail over night and clinching it the next morning.” And so, after you have given conscientious effort to a memory task and have not yet fully mastered it, sleep over it; go back to it again after the interval. A number of such relatively short, *vigorous* onslaughts must in time win you a victory — and likely a permanent one.

PRINCIPLES OF RECALL

Mechanical association. — The second set of principles for the effective use of the memory are those which have to do with the recall of experiences through their association with other experiences. Read attentively down through each of the following columns of words, noticing the relation of each word to the next. Out of the words in the second column you can probably make a connected story. See if you can not repeat each column correctly after only one or two readings.

Ice	Dinner Bell
Slippery	Beef
Smooth	Butcher
Rough	Horn
Ruffian	Band
Prison	Picnic
Crime	Rustic Bridge
Crimea	Brook
War	Minnows
Army	Creek
Navy	Slippery Bank
Ship	Wet
Sail	Cold
Auction	Doctor
Bid	Money
Competition	Christmas

Why is it that you can get these lists of words so easily? Plainly because each word furnishes the cue to the next. Each two consecutive words are hitched together according to the laws of association.

Simple mnemonics. — A useful rule, then, in memorizing any fact is to associate it with some other fact or facts. If one is to get back an experience when he wishes, it must have strings to it by means of which it can be dragged back, and such strings are the association links between ideas, of which we heard so much earlier in this chapter. This is what the boy is providing for when he ties a string around his finger to remind him to bring his report card back to school in the afternoon. He is sure to see the string while at home and this can recall to him the idea of his report. I once had difficulty in remembering a lady's name — which was Sprout — until a chance association made me master of it. She was standing on loose stones in a brook when somebody remarked that if she got her feet wet she might grow fast as all sprouts do. Thereafter I was able to remember the name through its connection with this experience. The sequence of the letters in the troublesome diphthongs *ei* and *ie*

can be remembered from the word *lice*, the *i* coming first after an *l* but the *e* after *c*, — thus *believe* in the one case, and *receive* in the other. The names and order of the colors of the rainbow can be remembered by the nonsense word *vibgyor*, or backwards by the name Roy G. Biv, each letter being the initial one in a required color. Such artificial means of assisting memory are called “mnemonic” devices and the ingenious person can work one out for any fact that he finds it difficult to memorize otherwise.

Associations to be rational when possible. — Of course the more logical these associations are the better. Artificial ones are to be used only when natural ones are lacking. Professor James tells of a man who, like most of the rest of us, was in the habit of walking off and leaving his umbrella. To protect himself he built up firmly an association between doorway and umbrella, so that he could not pass through a doorway without its bringing to his mind the idea umbrella, and reminding him to get his before proceeding further. Dr. Jewett tells of helping a boy to memorize, partly by means of such associations, the following stanza :

On came the whirlwind — like the last
 But fiercest sweep of tempest blast ;
 On came the whirlwind — steel gleams broke
 Like lightning through the rolling smoke ;
 The war was waked anew.
 Three hundred cannon mouths roared loud,
 And from their throats, with flash and cloud,
 Their showers of iron threw.

After urging him to give close attention while reading the stanza and to think of its meaning he goes on :

“Then, too,” I added, “you’ll probably need to make some bridges. Do you have special trouble anywhere?” “There’s one place,” he said pointing to the sixth line. “I go well enough until I get there; then I stick.” I saw what the trouble was, — there was nothing at the end of “Waked anew” to suggest the next line. “Ah,” said I, “you reach a chasm just there; you’ll have to bridge

it. You might connect 'waked' with 'canon.' Do it in this way: when you reach the word 'waked' think how quickly you would waken if three hundred canon mouths roared loud near your bed; and when you reach 'canon mouths' be ready to join it to 'throats,' because throats and mouths suggest each other. For the line after think of 'showers' that fall from 'clouds.' Make sensible bridges when you can, but even a foolish bridge is better than a chasm."

Mnemonic systems. — Most of the memory "systems" advertised for sale at a high price are merely schemes for mechanical association, and are so artificial and far-fetched that it is impossible to recommend them. The exponent of one of these, who offered his course, said to consist of six lessons, for two dollars per student (to be paid in advance), but who absconded at the end of the second lecture, based his system on a framework like this: Hat, honey, home, yard, road, hill, tree, vine, castle (the vine hanging between the tree and castle), forest (back of the castle), river, bridge, graveyard, etc. This scheme can easily be connected up into a spacial system, and thus readily remembered. The trick was, then, to associate each of the objects to be remembered with one of the terms of this scheme. Suppose, for example, you were to order the following dozen articles down town: nails, sugar, wood, rice, flour, axle grease, apples, maple sirup, cranberries, pork, cheese, and salt. The following associations would possibly come to you: the nails are being held in the hat; the sugar is similar to the honey; the wood is piled in an unused room in the house; the flour sack has burst and some of the flour lies scattered over the yard; the boys are greasing the buggy along the road; the apples have been jolted out of the wagon and lie scattered along the hill; the tree is a maple and its sap is being drained for sirup, etc. If you will try this scheme you will find that you can temporarily remember by it with surprising accuracy long lists of disconnected objects.

The figure alphabet. — A still more artificial mnemonic device, resting on the same principle, is the figure alphabet.

Certain letters in the alphabet are made to stand for specific digits, and then words are coined to express the desired numbers. The following illustrations are from Loiset's much advertised "Assimilative Memory." The underscored consonants have definite numerical values and so furnish the key to the date to be recalled.

A characteristic of Herbert Spencer is the accuracy of his definitions. His birth, in 1820, may be indicated by the significant phrase, He defines (1820).

Roommates in college are called 'chums.' Harvard College, — the oldest collegiate institution in America, — really introduced "the chum age" in America. The formula for the date of its foundation may be thus expressed — Harvard College founded; the chum age (1636).

Estimate of mnemonics. — What shall we say of such scheme? It would be perhaps going too far to say that it is utter folly, for, kept within narrow bounds, it might be of some use. Yet the extremes to which it is carried are certainly unwarranted, even absurd. Usually it would be more difficult to remember the formula than the number fact itself, to say nothing of the trouble involved in finding a suitable formula and in translating it back into numbers. Such mechanical procedure would almost inevitably foster, too, ruinously scatterbrained habits of thinking.

This criticism, however, is not directed against the practice of connecting a thing to be remembered with some associate, but against making use of fantastic associations when logical ones might be found. Yet even mechanical associations are not to be wholly tabooed. Jewett's advice, given above, is sound: "Make sensible bridges when you can, but even a foolish bridge is better than a chasm."

System. — But these mnemonic devices are after all only a lame way of making a *system* out of what we are to remember. If we can think our facts together into a rational whole we shall no longer be troubled in remembering the parts.

that whole. A student who really understands his geometry does not find it difficult to retain the proof of a theorem, for his reason supports his memory. The perception of what the demonstration demands as its next step readily gives the cue. So, too, the pupil who has caught the spirit of history does not find it difficult to remember its main facts. He could if necessary almost work out in advance the facts of the next lesson before studying it. For the events which belong to a period are nearly all causally interconnected, and whoever gets at the cause of the thing has an effective logical clue to all of them. Hence, in this group, our second rule for effective memorizing is *think, reason, get at the underlying causes of things and thus bind them up into a system.* When one thus sees his facts as a unit he has the most effective maze of associative connections. Not only does he give his desired term tied to one or two others, as in the case above, but connected by natural and irrefragable ties to every other term of the system, and hence subject at all times to easy recall. "So that," as James says, "if we have poor hasty memories we can save ourselves by cultivating the philosophic turn of mind."

Classification. — Related to this matter of rational system is the classification of the data which you wish to remember. Professor Starch gave to his class the following list of facts to be learned :

Battle of Poitiers	1356 A.D.
Katheko =	come down
Karphe =	hay
782 plus 465 =	1247
Invention of grain binder	1854 A.D.
624 plus 832 =	1456
Arch of Constantine built	314 A.D.
Zulon =	timber
901 plus 477 =	1378
Battle of Colline Gate	82 B.C.
758 plus 546 =	1304

Invention of typewriter	1855 A.D.
Harkos =	oath
683 plus 459 =	1142
Ochthe =	bluff

To learn these fifteen facts required on the average fourteen minutes and three seconds. He then gave fifteen similar facts, but grouped them under three headings: five historical dates, five Greek words, and five additions. Thus classified the class was able to learn them in only nine minutes and eleven seconds on the average. And not only were they more quickly learned when organized but were doubtless also remembered longer. Miscellaneous facts are difficult to retain and to reproduce with certainty. They are like a disordered desk in which one can not find what he knows is there. On the other hand, facts grouped according to some plan are much more readily handled. This obviously has its bearings on the making of outlines in history and other subjects, or on the grouping of the odd jobs which are awaiting one's attention.

Comprehension. — And, finally, a third rule of this group is to seek to understand what you are to commit to memory. Before you understand it it is a jumble of disconnected facts. After you understand it it makes a system. An educator found a little girl working furiously over some lessons. "My little girl," he sympathetically asked, "do you understand what you are studying?" "Oh, no," she replied, "we have so much to get that we have no time to understand it." And this "penny-wise and pound-foolish policy" is not uncommon among pupils. A boy was once sent to me for punishment for not learning a poem. He complained that the reason he could not learn it was because he did not understand in the least what it meant. After it was explained to him he was able to get it in a comparatively short time. Before you set about memorizing a poem, or a lesson in physics, or a demonstration in geometry,

or the development of a formula in algebra or trigonometry, be sure to read it entirely through and get its meaning. Give your energy first to comprehending it, and then the task of memorizing it will be comparatively easy.

MISCELLANEOUS TOPICS

Part and whole method. — Left to himself nearly every person will attempt to memorize a selection by taking it a phrase, a sentence, or at most a paragraph at a time — the so-called “part method.” He will go over this fragment a number of times until he is able to repeat it correctly, and then take up, in the same way, the next fragment. Psychological experiments have shown this to be a most ineffective method of memorizing. It violates the principle of *system*, for it leaves the piece an aggregate of parts rather than a meaningful whole. It very often happens that one knows the parts well enough, when started upon them, but between each two fragments there is a chasm. This is frequently seen in the recitations of children, where a prompter is obliged to start them on nearly every line. The method of reading each time through the whole piece — the so-called “whole method” — has been shown to be much more effective. After one has become accustomed to this method not only can he learn a selection in less time than by the old one but he can retain it better. In consequence psychologists have been unanimously urging the “whole method” of study. The most recent experiments, however, seem to indicate that neither the “part method” nor the “whole method” alone is best, but a combination of the two. The piece should by all means first be read through — perhaps several times — as a whole, and then those parts that still remain unlearned worked up separately. But one should not fail to attempt frequently, along with this part study, to run through the piece as a whole, so as

to keep it one meaningful unit instead of an aggregate of fragments.

Learning beyond threshold. — Experiment has shown, too, that it is very economical to continue the studying of any matter, which is to be long retained, until it has been raised well above the threshold of bare recall. If one stops as soon as he can correctly repeat the matter, it fades away from him very rapidly. On the other hand, if he gives to it a few extra repetitions, it persists much longer and better. This little extra time much more than pays for itself, for the effectiveness of the learning is increased through it by a much larger percentage than that by which the time is lengthened.

Attempted recitations. — It is also known that attempted recitations are an effective device in memorizing. One should always read through the selection once for orientation, and should follow this by another close reading or two in which he tries to get the details. But as soon as he feels that he has it fairly well he should close his book and try to recite to himself upon it. If he finds that he has forgotten at any point he should open his book and get that particular point — never omit it nor guess at it. Having got this point he should close his book again and continue with the recitation. Thus readings and attempted recitations should alternate until the piece has been learned. Witasck, working with nonsense syllables, found six readings and fifteen attempted recitations most economical, and in every case found an attempted recitation more effective than another reading. Another investigator (Katzaroff) concludes, "The most effective procedure is to have a number of readings, then at least two attempted recitations, and end with at least two readings to get the general impression."

Cramming. — Another temptation, against which we must warn the student, is reliance upon "cramming" — that is, attempting to learn by a few hours of concentrated and forced memorizing materials supposed to have been got

through a long period of daily study. Such cramming, just before examinations, is the special sin of high school and college students, though others are not free from it. It is true that, in this way, an amazingly large amount of matter can be memorized for the time, but it usually goes as quickly as it comes. It has not had occasion to get associated with the many experiences to which it would have been tied had it been learned day by day throughout the preceding months. Effective learning always takes time. In some way the brain pathways conditioning what we have just learned seem to continue to be deepened and connected with others even after we have ceased our efforts and are apparently at rest. Not only does this fact have its application to cramming, as contrasted with leisurely learning throughout a long period, but it also should caution us against rushing quickly from one task to another. Experiment has proved that a short interval — at least a minute or two — of quiet, following a period of memorizing, is time well spent. During such interval the previous mental activity seems to continue and to fasten its effect more firmly in the brain.

Memory's transformation of the past. — Finally we must notice a trick that memory has of retouching what she presents to us as the past. We do not get past experiences with all the austerity that really belonged to them, but softened down and radically recast. Many experiments have shown that the very moment an experience is past we begin to modify it in recalling it. We take it for what we think it must have been. Says Stratton :

Whatever our theoretical reverence for memory may be, none of us pays great practical respect to it; what it tells we accept half-heartedly and with suspicion, never fully believing it unless reason approves. I seem to recall that the facts were thus and so, and yet reject this and believe the opposite because from certain present evidences I know that the event must have been otherwise. In this way, reason lords it over memory, modifying and rejecting her work without reserve.

Nor is it only reason that enters to transform our recollection of the past, but even more largely sentiment. Nietzsche somewhere says of an unpleasant past event: "Memory says 'I did'; pride says 'I didn't.' Pride persists and finally memory yields." Thus all the past is mellowed toward our liking, just as the rough contour of a landscape is smoothed in the distance. Jerome K. Jerome humorously writes :

Everything looms pleasant through the softening haze of time. Even the sadness that is past seems sweet. Our boyish days look very merry to us now, all nutting, hoop, and ginger bread. The snubbings and the toothaches and the Latin verbs are all forgotten — the Latin verbs especially. And we fancy we were very happy when we were hobbledehoys, and loved. . . .

Yes it is the brightness, not the darkness, that we see when we look back. The sunshine casts no shadow on the past. The road that we have traveled stretches very fair behind us. We see not the sharp stones. We dwell but on the roses by the wayside, and the strong briars that stung us are, to our distant eyes, but gentle tendrils waving in the wind. God be thanked that it is so — that the ever-lengthening chain of memory has only pleasant links, and that the bitterness and the sorrow of to-day are smiled at on the morrow.

This idealization of the past you should treat with a generous indulgence, for life would lose much of its poetry if it were not with us. But you must not let it weaken your confidence in the present. You must expect it and understand it. You must listen patiently to the poetry of the past, but I herewith give you license to smile to yourself and discount the stories of its greatness some ninety-five per cent.

EXERCISES

1. As stated in the text, certain areas of the cortex of the brain are specialized for certain specific functions. Does that confirm the old "Phrenology," which held that each "faculty" (as reasoning power, patriotism, etc.) has its seat in a definite part of the

brain, and that one can ascertain the strength of this faculty from the prominence of the bump on the corresponding part of the skull?

2. Give an example of some fact which you have remembered because of an extraordinarily vivid impression. How do you vividly impress upon yourself what you wish to remember?

3. Devise a mnemonic for remembering which of the two words, *anvas* and *canvass*, has the double s; for remembering the capitals of ten given states.

4. What is the value, in memory work, of picking out the high points, holding them in mind, and drilling upon them?

5. What is the effect of note-taking upon the attention which you give to the matter of which you make note? What effect will this have upon the retention in mind or of the fact noted on paper? Is it true that to trust the memory will strengthen it? But does it ever betray one? Recommend a method of taking and using notes which will combine the certainty involved in careful notes and the psychological advantages accruing from trusting the memory.

6. Must a good memory retain everything? Do you see how too detailed and "photographic" memorizing would be harmful rather than helpful? What does Horne mean by saying that "we never truly remember until we have forgotten"? Describe what you believe to be the best memory.

7. Which is the higher type of memory, that characterized by a high degree of physiological retentiveness, or that which is pieced out with a good deal of thinking?

8. Why can one learn an address which he himself has written more easily than one written by another?

9. Show how you might apply the principle of classification as an aid in remembering the twenty students who are to make up a certain party; the articles which you are to purchase down town.

10. A student in a psychological laboratory was studying a set of twelve nonsense syllables when he accidentally saw how they could be read together into a sort of story. Thereupon they were memorized with almost no further effort. What principle was involved?

11. What is the value of school examinations? To what extent do they motivate review? Organization?

12. In their initiation ceremonies savages sometimes severely beat the youth while they impart to him the secrets of the tribe. Is there any psychological justification for this? What methods, employed for the same purpose, do we substitute for theirs?

CHAPTER XIV

MENTAL IMAGERY

Viewpoint of this chapter. — In the preceding chapter we saw how our experience of the past is recalled. We discovered there that each experience is conditioned by a certain set of brain tracks; that as long as these pathways persist, the experience is retained in memory; that whenever, for any reason, this brain system is again set into activity the experience is revived; and that the method of setting it into activity, and thus getting back the experience, is to have a nerve current flow over into it from some other system functionally connected therewith — a condition which we described as association between the ideas belonging to the two brain systems. But we had occasion to mention only casually the *structure* of these recalled experiences, — that is, the stuff of which they consist. In this chapter we shall turn to that problem.

Concrete imagery in memory. — Stop and think for a minute of your home. What comes before you? Is it not a picture of the yard, of the house, of the sitting room, of your parents? Do you not hear again the sound of the voices of your friends and relatives, or feel their handshake? Indeed, do you not have again just the experiences which you have had, or which you would have if you were on the spot, only in less vivid and more fleeting form? You catch only the “high-lights” and even these you must catch on the wing, so that when, as psychologist, you turn to study them they immediately vanish from you; but nevertheless

while you have them they are qualitatively much like the real experiences to which they refer.

Just so, if you can catch yourself at it, you will find that all your recalled experiences are made up of some sort of concrete imagery. What surges back into mind, as the remembered experience, is the enfeebled sound of the word once heard in sense, the reconstructed picture of the scene, the tendency to reproduce the movement, the repetition, in very evanescent form, of the taste or odor.

And that this would be the case one who knows the physical basis of mental activity would be forced to predict. For, as we have seen, an experience is recalled by reason of a nerve current flowing back through the system of pathways formed when the experience was first had. And when this same combination of nerve cells and fibers is again active it is to be expected that the same psychical experience will attend as first accompanied it. When first formed, under the pronounced influence of the external stimulus, the activity was vigorous and hence the mental experience vivid; restimulated by the feebler energy due to association, the activity is less vigorous and hence the mental experience somewhat weakened. But, as the physical causes are alike in kind and differ only in degree, it is to be expected that the mental will be also qualitatively similar.

Concrete imagery in constructive mental activity.—And what is true of memory is true of constructive mental activity—imagination and reasoning. This, too, consists of concrete imagery. Suppose you are trying to decide which is the better road to take on some particular occasion; you will trace, in visual or motor imagery, the one—or at least certain parts of it—and then trace the other and compare. At the least, a fleeting image of some particularly important part of the one will present its claims to you in comparison with a similar presentation from the other. If you are trying to invent some machine you will picture more

or less clearly to yourself its parts and how they are to fit together. If you are planning a house, or a vacation trip, or trying to think what can be wrong with the automobile, you are equally dependent upon constructing the scene before you in some sort of concrete imagery. Sometimes this imagery may be of a very meager type, such as the image of the name of an object or very suppressed movement or attitudes (see below). Indeed much of your constructive thinking you do in terms of this meager verbal or kinæsthetic imagery. But whenever you strike some difficult point, where your thoughts can not run on so readily and so smoothly, at once a fuller and more vivid imagery comes to the fore. Nor is it surprising that your constructive thinking must be done in the same sort of concrete terms as those employed in memory, for all constructive thinking is dependent for its materials upon past experience. Indeed you can do no thinking that does not consist in compounding the elements of your past experience, as we shall more fully show in our next chapter.

Range of Imagery. — Since imagery comes from the re-use of systems of brain pathways formed when an experience was first had, it would appear that we should have as many types of imagery as we have different kinds of sensations. For any idea there are likely to be pathways ramifying into the visual, the auditory, the olfactory, the gustatory, the tactile, and the various kinæsthetic areas of the cortex, and when these are again in play, this same sort of imagery should be revived. And it is probably true that we are capable of all these forms of imagery, but some of them are so difficult to get, or are got so very feebly, that some psychologists deny that they exist at all. Certain it is that some types are much more prominent than others. On the whole, probably more than half of our thinking is done in visual terms, and the greater part of the remaining half in auditory and motor terms. Tactile, gustatory, and ol-

factory come last, if these last two are found at all. You will have an opportunity in a moment to see whether you can find these types in your own thinking.

Individual differences. — Experiment, however, has indicated very great individual differences in the sort of imagery chiefly used. One person will depend more upon visual, another, more upon auditory, a third, more upon motor. A little while ago it was customary to emphasize very much this difference and to divide people into classes, — visiles, audiles, motiles, tactiles, — according to their reigning type of imagery. We no longer regard these classes as exclusive of each other. "With most of us," Angell says, "there appears to be relatively good representation of several forms, especially the visual, auditory, tactile, and motor." Yet there is no doubt that the different types are developed in different proportions by different persons, and that some persons have one form or another very highly developed or nearly lacking. A celebrated painter is said to have been able, after placing his subject in a chair and looking at him intently for a few minutes, to dismiss him and yet paint a perfect likeness of him from the visual imagery which recurred every time he turned his eyes toward the chair where the subject had been sitting, and Mozart had such highly developed auditory imagery that he was able to reproduce from memory, after a single hearing, Allegri's elaborate and intricate "Miserere." On the other hand, Betts tells of a member of his psychology class who was unable to recall the appearance of her mother only a few moments after having seen her, and of a pastor who could not recall the difference between "Old Hundred" and "Yankee Doodle."

Test for imagery. — In view of these facts it is interesting and worth while for each of you to test your own imagery, to see in which you are strong and in which, weak. This you can do by reading over, and answering to yourself, the following questions :

I. Visual.¹—1. Can you imagine the color of — (a) A red rose? (b) A green leaf? (c) A yellow ribbon? (d) A blue sky?

2. Can you image the form of — (a) The rose? (b) The leaf? (c) The teacup? (d) The knife?

3. Can you compare in a visual image — (a) The color of cream and the color of milk? (b) The tint of one of your fingernails with that of the palm of your hand?

II. Auditory. — 1. Can you image the sound of — (a) The report of a gun? (b) The clinking of glasses? (c) The ringing of church bells? (d) The hum of bees?

2. Can you image the characteristic tone quality of — (a) A violin? (b) A cello? (c) A flute? (d) A cornet?

3. Can you form auditory imagery of the rhythm of — (a) The snare drum? (b) The base drum? (c) Dixie, or other air heard played? (d) "Tell me not in mournful numbers" spoken by yourself?

III. Motor. — 1. Can you image, in motor terms, yourself — (a) Rocking in a chair? (b) Walking down a stairway? (c) Biting a lump of sugar? (d) Clenching your fist?

2. Can you form a motor image of — (a) The weight of a pound of butter? (b) Your speed in running a race? (c) The speed of an arrow?

IV. Tactual. — 1. Can you form a tactual image of the pressure of — (a) Velvet? (b) Smooth glass? (c) Sandpaper? (d) Mud?

2. Can you form tactual imagery of — (a) The flow of water against the finger? (b) The weight of a particular coin in the hand?

V. Olfactory. — 1. Can you image the odor of — (a) Coffee? (b) Camphor? (c) An onion? (d) Apple-blossoms?

2. Can you image odors from — (a) A meadow? (b) A confectioner's shop?

VI. Gustatory. — 1. Can you image the taste of — (a) Sugar? (b) Salt? (c) Vinegar? (d) Quinine?

2. Can you image the taste of — (a) An apple? (b) Chocolate cake? (c) Beefsteak?

VII. Thermal. — 1. Can you image the coldness of — (a) Ice-cream? (b) A draught of cold air?

2. Can you image the warmth of — (a) Hot tea? (b) A warm poker?

¹Taken (much abbreviated) from Seashore's *Elementary Experiments in Psychology*.

VIII. Pain. — Can you secure a sensory image of the pain of —
(a) The prick of a pin? (b) Running your finger along the edge
of a sharp knife? (c) A toothache or headache?

Change of imagery with age and occupation. — Although the experiments with the imagery of children have so far been few and unsatisfactory, it is probable that there is some change in the balance between the several types as one grows older. In early childhood the concrete visual seems to predominate even more fully than later, and the auditory is also strong. This is doubtless because the experience of one's early years is so largely in terms of things seen and heard. On the other hand, as one grows older one more often sits down and thinks about things and their relations without the actual presence of the things themselves. This thinking one is likely to do in terms of their names, or of very suppressed attitudes toward them, and, in consequence, the imagery that is practiced is voco-motor (movements of the vocal organs) and kinæsthetic (muscular). There is no doubt, too, that the imagery of children is much richer and fuller than that of adults as far as sensuous vividness is concerned, though, on account of the more restricted observation of the child, it is probably less complete in detail.

Dependence of imagery on occupation. — Imagery doubtless varies, too, according to occupation and environment. The artist must use visual imagery so much that it gains more and more complete dominance over him. Indeed, no one can be an artist who can not see in visual imagery his picture before he begins to paint it. Almost any one could easily develop the muscular control necessary to paint, but what most of us lack is the ability to see our result in advance with sufficient clearness and detail to know just how we should next move our pencil or brush. So a native possession of strong visual imagery would seem to be essential for an artist, and his training doubtless consists quite as much in a

development of his ability to image clearly and systematically as in the acquirement of motor control. Similarly the musician must have strong auditory imagery. He must hear the music in imagination before he can compose it, or even before he can play it properly. So, too, the man who works in some manual activity comes to guide himself at that work largely in terms of motor imagery. When he thinks how he shall take hold of one of its tasks he is likely to do so in terms of how it will feel in his muscles to do it. Indeed if he has half forgotten which way to turn a screw, or in which direction to move his foot, he is very likely to try out in advance certain movements of the hand or foot and ascertain whether the movements feel right, thus showing clearly that he is thinking in motor terms.

It has also been shown that imagery differs at different stages of intellectual development. In a famous inquiry, made more than thirty years ago, Galton found that scientists have very meager concrete imagery. This is doubtless because they have become accustomed to doing much of their thinking in terms of principles which do not lend themselves to being concretely imaged, but which must be thought in symbolic terms — that is in *voco-motor* or *kinæsthetic* imagery. On the other hand, persons who have not practiced abstract thinking, but who have habitually dealt with the concrete and particular, are accustomed to use a much more concrete type of imagery.

Effective appeal to imagery in teaching. — Now any one who wishes to deal effectively with his fellows must take account of these differences in imagery from one individual to another and from one age or condition to another. The teacher is confronted continually by the necessity of conforming to these requirements. As an educated adult she would naturally think in symbolic terms. But she may not teach in those terms. She must put her presentation in concrete form: she must present objects, and draw and write

on the board, for visual effects ; she must imitate the sounds of the animals, or other objects studied about, for the auditory ; and she must have as many historic and other instances dramatized as possible, so as to reach the motor imagery. Only thus can the matter be fully understood by her young pupils.

Similarly, what material she would have remembered she must put, for maximum effect, in the various sense modalities. Thus in teaching spelling she should write the word on the board, with its critical letters in colored crayon, and call particular attention to its form, for the sake of having it got in the visual imagery. She should then spell it aloud, and have several pupils in turn spell it aloud, to reach the auditory imagery. Next, she should have the class spell it several times in concert, in order to get the feel of it in their throats (voco-motor imagery). Finally, with older children, she should have them write the word several times, for the sake of the kinæsthetic imagery and for further visual analysis. The same principle of appeal to varied imagery can be used in history, geography, etc., though in each case the method must be adapted to the subject matter. This varied sense appeal is both for the purpose of making a deeper impression on each individual (giving best effect when the visual and auditory are combined) and also for reaching all those in whom one type or another predominates.

In writing and public speaking. — Similarly the writer and the public speaker must adapt their message to the image type of those whom they address. When addressing children their message must be put concretely. Illustrations of a pictorial character must abound ; abstract principles must be largely absent. On the other hand, when addressing scholarly persons such concrete presentation would be considered not only flabby but silly. There a presentation in general principles, which must be appreciated in symbolic imagery, is appropriate. In addressing, too, people of any

- age the message must not be couched too exclusively in one type of imagery. The illustrations must be partly of the visual, partly of the auditory, and partly of the motor type. If one presents his message wholly in terms of his own favored type of imagery he will be dumb to a large part of
- his audience. It is one's business to try, in his presentation, to get the viewpoint of his audience, rather than the one native to himself, and this applies no less to imagery than to those other aspects which we discussed in our chapter on "Apperception and Tact." Fortunately, one's peculiarity of imagery consists ordinarily only in the relatively greater prominence of one type rather than in the entire absence of others, but even this lack of balance can be, doubtless, largely overcome by care on the part of the worker or speaker when he plans his work.

Dramatic imagery. — The dramatic imagery appears to have possibilities almost entirely overlooked by psychologists. This type of imagery consists in thinking in terms of bodily attitudes more or less appropriate to the situation itself (and is, therefore, a subdivision of the motor type). Thus *pride* would call up, not a visual picture of the printed word nor an image of a person notorious for that quality, but a feeling of the bodily attitude in yourself expressive of pride or of some relation to this. So, *ambition*, *honor*, *friend*, *enemy*, would call up motor images of yourself performing acts appropriate to these objects. Without doubt, too, the act itself is really performed in very suppressed form, for we learned in our discussion of suggestion that any mental state tends to work itself out into bodily expression.

It is probably to this sort of imagery that dramatic speakers, such as "Billy" Sunday, make such an effective appeal. They themselves continually act out what they are saying, and thus reach their hearers not only through visual and auditory imagery, but through this more primitive and basic mimetic imagery as well. Thus their auditors

are thrown imitatively into suppressed bodily attitudes, expressive of the ideas and emotions given forth by the speaker. But, if the currently accepted theory of emotions is correct (see Chapter II) the emotions themselves come with, and in consequence of, the attitudes which express them. Thus the auditors are swept on with a force which no appeal lacking in dramatic imagery could possess. There is no reason why this trick of appealing to mimetic imagery could not be acquired through training. We have doubtless here a field which the student of effective speaking can well afford to study.

Value to individual of wide range of imagery. — But not only for the sake of effective presentation of a message to others, but, also for the sake of his own fullness of life, it is important for every one to possess the power of using as wide range of imagery as possible. When sensation is in question it is quite clear that any one, to take in what the world presents, must have a complete set of well-developed sense organs. If he lacks the possibility of vision or hearing or touch or taste or smell, the message of nature, on the side for which he lacks sensibility, is shut off from him. And evidently the same thing is true of the imagery in terms of which experiences are recalled or constructed. If one lacks the power of visual imagery, or has it in only rudimentary form, the possibilities of his ideational experience are narrowed much as that of his sense experience would be without sight, though, of course, to not quite the same extent, since it is possible for him to translate his imaged experience into other terms without entire loss. Similarly, if he lacks in auditory, in tactile, or in any other type of imagery he is mentally blind to just that extent. It might safely be said that one is as many times a man as he has well-developed types of imagery subject to use. Not that he will always wish to employ all of these types of concrete imagery, or even any one of them — for in much of one's

thinking one can best use a very schematic imagery and, indeed, not infrequently a too concrete imagery is a positive handicap in one's thinking. But all do frequently have occasion to picture to themselves concretely what is represented, and the adequacy with which they can do this is dependent upon the range of their imagery.

Imagery in literature. — A few quotations from standard writers will show how impossible it is for any one to appreciate literature fully without the employment of practically all the types of imagery.

Without visual imagery one would be, for example, unable to get anything like the full force of the following description with which Bret Harte opens "Gabriel Conroy":

Snow. Everywhere. As far as the eye could reach — fifty miles, looking southward from the highest white peak — filling ravines and gulches, and dropping from walls and cañons in white, shroud-like drifts, fashioning the dividing ridge into the likeness of a monstrous grave, hiding the bases of giant pines, and completely covering young trees and larches; rimming with porcelain the bowl-like edges of still, cold lakes, and undulating in motionless white billows to the edge of the distant horizon. Snow lying everywhere over the California Sierras on the fifteenth day of March, 1848, and still falling.

It had been snowing for ten days; snowing in finely granulated powder, in damp, spongy flakes, in thin, feathery plumes; snowing from a leaden sky steadily; snowing fiercely, shaken out of purple-black clouds in white flocculent masses, or dropping in long level lines like white lances from the tumbled and broken heavens. But always silently! The woods were so choked with it — it had so permeated, filled and possessed earth and sky; it had so cushioned and muffled the ringing rocks and echoing hills, that all sound was deadened. . . . The silence was vast, measureless, complete. . . . No bird winged its flight across the white expanse — no beast haunted the confines of the black woods.

Without strong auditory imagery the following two passages would lose much of their charm:

How sweet the moonlight sleeps upon this bank,
Here will we sit and let the sounds of music
Creep in our ears; soft stillness and the night
Become the touches of sweet harmony.

While the plowman near at hand
Whistles o'er the furrow'd land
And the milkmaid singeth blithe
And the mower whets his scythe.

For motor imagery consider the following :

Those lily hands
Tremble like aspen leaves, upon the lute.

Hop as light as bird from briar to briar.

She seemed as happy as a wave
That dances on the sea.

To appreciate the following passages from Shakespeare requires olfactory imagery :

It came o'er my ear like the sweet sound
That breathes upon a bank of violets,
Stealing and giving odor.

Here's the smell of blood still : all the perfumes of Arabia will not
sweeten this little hand.

Also this statement of Eve's from Milton :

The pleasant savory smell
So quickened appetite, that I methought,
Could not but taste.

The following must be pictured in tactile imagery :

I take thy hand, this hand
As soft as dove's, and as white as it.

Thus I set my printless feet
O'er the cowslip's velvet head,
That bends not as I tread.

Kinæsthetic imagery is essential if one is not to miss the effect of the following from Shakespeare :

At last, a little shaking of mine arm,
And thrice his head thus waving up and down,
He raised a sigh so piteous and profound
As it did seem to shatter all his bulk
And end his being.

And of course, if such wide range of imagery is necessary to enjoy literature to the fullest extent, it is also necessary in order to produce it with the greatest degree of effectiveness. Therefore the writer and public speaker should have the power of varied imagery. He must touch all classes of men and must do justice to all sorts of scenes and incidents. With a narrow range of imagery this is hardly possible. Except as one can enter freely and naturally into any phase of life treated it is doubtful whether he can present it in other than an artificial and stilted manner.

Possibility of cultivating imagery. — It is, therefore, eminently worth while for one to try to round out his range of imagery. Doubtless one's bias, in this respect, is partly native, so that it can not be *radically* changed, yet imagery seems to be susceptible of a considerable amount of training and hence of improvement. Angell says :

It is astonishing to observe how rapidly this capacity for visualizing unfolds in response to a little systematic effort and practice. By devoting to the task a few minutes each day for a week, one may learn to visualize with great detail and remarkable accuracy the form, size, color, etc., of even large and complex objects, such, for example, as great buildings. Frequently at the outset we find that our images are relatively faint, meager, and unstable; they lack vividness and veracity in color, detail in form, and appropriate dimensions in size. Images of other varieties, auditory, for instance, are similarly defective at times, and yield as a rule to discipline, with a corresponding form of development.

And Meuman, than whom there is, in this field, perhaps no higher authority, says:

Any particular sort of ideating can be acquired by training, if there is not a complete dearth of ideational elements from the corresponding sense-department in the individual consciousness at the outset. I myself am dominantly non-visual in my ideation of verbal material. . . . In psychological experimentation I have cultivated visual ideation to such a degree that I am now able to solve arithmetical problems by means of auditory or of visual images as I prefer: I can learn a group of letters, numbers, or syllables, by means of auditory, visual, or motor imagery.¹

Methods of cultivating imagery. — There are three ways in which imagery can be cultivated. (1) *By training the sense organs.* Angell says:

The development of imagery runs parallel in a measure with that of perception, with which, as we saw in the previous chapter, it is very intimately connected. It holds to reason, without any elaborate justification, that if any sense organ is allowed to go unused, or is used infrequently, the imagery belonging to that special sense can not develop freely. In confirmation of this general assertion we have but to notice that the imagery which most of us find we can command with greatest accuracy and flexibility is that belonging to the perceptual processes with which we are most intimately familiar, *i.e.* vision, hearing, movement, and touch. Compared with these our images of temperature, smell, and taste are relatively impoverished.

So if one would strengthen any type of imagery one essential would seem to be to look to a rich perceptual experience in terms of the sense corresponding to which the imagery is to be cultivated. The habit of making attentive observations in the sense in question will, without doubt, make possible a completer reproduction in that sense modality. Whether that will improve the power of original construction in that type of imagery is more doubtful, but it is not improbable.

¹ Yet some psychologists doubt whether imagery can be trained.

(2) *By exercising the imagery through reproduction in it.* One can try to recall the appearance of faces, of houses, of landscapes which he has seen; one can try to hear again a song or a concert or the voice of a friend; or one can attempt to live through again, in terms of the appropriate imagery, experiences which involve any of the other sense modalities.

(3) *By constructing in terms of the various senses.* When a description is read in literature, or in geography, or when an incident is narrated in story or in history, one can stop to picture it to himself in the appropriate concrete terms. This is probably the most important method, because it is so easily handled. The teacher can easily stop her class and ask the pupils to try to picture the scene before them — to see the landscape, to hear the whistle of the wind or the patter of the rain, to feel the tiredness of the weary pedestrian. She can also advantageously have many scenes dramatized in order to cultivate the motor imagery. The serious student, too, can put himself through the same course of training. Such construction can also be done without the stimulus of a description or narration by another. One can build for himself, in imagination, constructs in the various sense modalities. He can, that is, construct for himself bits of scenery, snatches of music, or bits of activity. This every one, of course, does anyway almost continually, but often chiefly in his own favored type of imagery. To make the activity serve the end of image training it is necessary only to see that one's mental constructing be done partly in the kinds of mental imagery which he wishes to cultivate, and not merely in that which is most natural to him.

Summary. — We may summarize this chapter, then, by saying that all mental processes go on in terms of some sort of mental imagery. We potentially have a type of imagery corresponding to each kind of sense, but some are so poorly developed that many psychologists doubt whether they

exist at all. On the other hand, the visual imagery is, as a rule, much the most prominent, and the auditory, motor, and tactile follow in decreasing importance. There are, however, great individual differences of which teacher and public speaker must take account. These differences are partly native, but defects in imagery can probably be largely overcome by training, and, if so, it is extremely important to overcome them. Imagery is to be thus trained in three ways: (1) through cultivating the senses; (2) through reproducing in the several sense modalities; and (3) through constructing in the various kinds of imagery.

EXERCISES

1. Is it going too far to say that there is always some concrete basis to all forms of ideation?
2. Show what is meant for a speaker or writer to take the point of view of his audience in respect to mental imagery.
3. What difference is there between the imagery needed for appreciating literature and that needed for appreciating a discussion of the value of Latin?
4. How can the student train his own imagery?
5. Darwin found himself unable to appreciate poetry in his old age. Is there any connection between that and his development as a scientist? Could he have retained his ability to appreciate poetry without interfering with his work as scientist?

NOTE. — An excellent discussion of mental imagery is to be found in Colvin's *The Learning Process* (Macmillan), pp. 101-115, and 123-27. Also in Halleck's *Education of the Central Nervous System*, Chapters VII-XI. Most of the quotations from literature used in this chapter are taken from Halleck's book.

CHAPTER XV

IMAGINATION AND ITS CULTURE

Past experience must be recast. — In our chapter on memory we saw how past experiences are reinstated in consciousness. Now memory is an extremely important faculty, and is, indeed, basic to all mental processes. Yet if man were capable only of recalling past experiences as they occurred he would be destined to an exceedingly sterile and inefficient life. He would be able to deal consciously only with situations which were exactly the same as those met in the past, but he could not adjust himself effectively to any new situation.

But it is evident that, on this simple level of consciousness, we can not get far. Our problems are never absolutely identical with those of the past, and are usually considerably different from them. We can not, therefore, ordinarily apply to them adequately the "performed judgments" of the past. We must reconstruct our methods. We must analyze — tear apart — our past experiences and understand the significance of their several parts. Then, when confronted with a new situation, we must select from a wide range of analyzed past experiences those parts which serve our present purpose and combine them into a new synthesis, every element of which is there completely adapted to its peculiar function. All originality and progress depends upon the ability to do just this.

Imagination. — And here comes in our new function of the mind to supplement the work of the memory, — imagination. For the ability thus to tear apart our past experi-

ences and recombine their elements into new constructs is dependent upon this popularly but wrongly despised faculty. Imagination is nothing more nor less than the holding of constructs before the mind when the corresponding objects are not present to sense. Ordinarily, however, when we think of imagination we have in mind the formation of *new* mental constructs, and it is in that somewhat restricted sense that we shall here use the term.¹ And so, used in this sense, the essence of imagination is the *rearrangement* spoken of above as so essential to progress.

Imagination and memory.—In this respect we may contrast memory and imagination. In the former, experiences are recalled in just the form in which they were first had; in the latter, it is only the elements which were previously experienced, the object into which they have been combined never having been previously met with. Thus the inventor of the telephone was able to call up in memory the telegraph, for he had seen this instrument. But the telephone he could only imagine, since although he had seen disks, electromagnets, wire, etc., he was obliged to bring these together in his mind into a new combination to get from them the idea of the telephone. In the memory experience, the past furnished the elements in their old order; in the imagination experience, it furnished the elements, but he worked them over, rearranged them.

However, we must make this contrast cautiously. For we now know that one recalls in memory no experience exactly as he had it. There is always some rearrangement, omission, or change in relative importance, so that all memory involves some of the elements of imagination. On the other hand, much imagination is of the reproductive type, where one's construct is one which he has, in essentials,

¹ Most psychologists include under imagination a discussion of "reproductive" imagination and of mental imagery. Judd, however, places the emphasis upon rearrangement.

met before, but which he does not now refer to his past. In fact the two faculties shade gradually into each other. In so far as we do not notice the rearrangement but recognize the experience as belonging, as a whole, to our past we have memory; in so far as we build a construct not referred, as a whole, to our past we have imagination. Yet the distinguishing feature of imagination is rearrangement, while that of memory is the reinstatement of experiences without such rearrangement, and with the recognition of them as unmodified past experiences.

Imagination dependent upon past. — From what has been said it is already clear that imagination, as well as memory, depends upon the past. It must go there for all of its materials. Angell says :

It is a favorite conceit of the untutored mind to suppose that it is possible mentally to create absolutely new materials for ideas, that it is possible to burst over the bounds of one's past experience and beget thoughts which are wholly novel. This is a flattering delusion which a little reflection will effectually dispel, although there is a distorted truth underlying the vanity of the belief.

In the case of the eight-legged dog it is clear that, although we may never have encountered just such a creature in any of our adventures, the superfluous legs with which we have endowed him, which constitute his sole claim to novelty, are merely as legs familiar items in every experience with the canine breed.

No matter how tame or how fantastic the imagination may be, it is thus dependent wholly upon the past for its materials. The strangest figures of the ancient mythologies — the nine-headed Hydra; the centaurs, with the head of a man and the body of a horse; the Furies, with their hair of serpents — were only grotesque combinations of bodily parts seen in the men and animals of ordinary life. New machines that are thought out are only new combinations of simpler ones with which the inventor is already familiar. To get a perfect face Apelles is said to have traveled all over

Greece, getting the idea for a nose here, a forehead there, and a chin elsewhere, and it is in much that way that every artist works, whether in sculpture, painting, or literature. The elements of the old have been dissociated and then recombined into new constructs — as a woman's head on the body of a fish — or have been changed in proportion — as in the case of a very small man with a very large head.

Need of rich past experience. — So imagination draws its materials from the past. You see, then, how important, from this standpoint, is a rich past experience. No one who has not had it can be fruitful in imagination. Of course he may have a fantastic imagination, startling on account of its wildness, but that may be far from an effective one. In imagination one wishes to rebuild and he can do this only out of the materials which he has gathered in the past. And if he is to be resourceful in devising expedients he must have at command a breadth of experiences upon which to draw. To be sure the rapidity and the manner in which these come back to him are important as well as their number, but it is quite clear that one can not plan devices of which he has not experienced the elements. So, to develop toward resourcefulness in shop, school, or public arena, one must keep wide awake and keenly observant. In art or in literature this is likewise obviously true. It has been said that one may write lyric poetry as early as eighteen or twenty, because in this it is enough to give vent to one's own emotions with the chance that they will strike a responsive chord in others, but that no one should attempt to write a novel until he is past forty, since before that time he has not observed and experienced life in sufficient breadth. The more experience the writer can get, through reading, travel, participation in social activities, and especially through personal suffering, the better balanced will be his work. One who undertakes to produce without such mass of material will inevitably produce works that are sterile,

or, if emotionally true, so distorted in concrete plot as to be seriously weakened or even rendered positively ridiculous.

And this same thing is true outside the world of art. We are constantly tempted to invent devices or formulate theories of our own in realms with which our real acquaintance is small, and are often mortified later at discovering the absurdity of the devices or theories which we have too hastily evolved. Every one should read widely before formulating plans of his own — or at least before taking these seriously. The would-be inventor, for example, should inform himself of what others have done in his, or allied, fields before setting seriously about his invention. A knowledge of what has already been tried and accomplished will be sure to bring suggestions which will modify his plans and make them more nearly adequate. Similarly any one who proposes a social, religious, political, educational, or other reform, should do so only after acquainting himself very fully with what has been thought and done by others in the past, and with what is being thought and done elsewhere at the present. Otherwise his scheme will be only half-baked, and will inevitably lack proper scope and balance. Even so small a thing as the writing of an essay no student has a right to attempt — if he really intends to do a serious bit of work — until after he has taken advantage of every suggestion which the literature on the subject can give him. This wealth of material, together with what his own experience can add, he can then work over in his mind and build out of it his own piece of work.

No one can be acquainted with the spirit of modern scholarship without seeing that its chief characteristic is such painstaking investigation as a preliminary to any positive expression. Certainly no scholar worthy of the name would write a book on any subject until he had read practically everything written on the subject, provided it was reasonably available and promised to be of any importance. If

imagination fabricated its constructs out of thin air, as it is often popularly supposed to do, it might work without such preparation, but, since it can build only out of the materials supplied by past experience, it is necessary that the stock of building material be large and varied if the construct is to be substantial and duly proportioned.

Three levels of imagination. — So imagination involves ideational constructions intended by nature to enable us to adapt ourselves to our environment by presenting to us this environment in ideal terms before we meet it in the concrete. It is therefore normally the forerunner, or scout, of our conduct and leads the way. But we may distinguish three degrees in the extent to which imagination is held to this dynamic, constructive function, and hence three levels on which imagination may work — daydreaming, interpretative imagination, and constructive imagination.

In *daydreaming*, imagination is practically purposeless. In the normal use of the imagination one is trying out, in ideal form, acts which he intends to perform as soon as he has found, by this try-out in terms of mental imagery, a consistent way of doing so. But in daydreaming one's imagination is dominated by no such purpose. One is not confronted by some practical situation to which he must immediately find the most promising way of adjusting himself. Instead he is planning out what he would say or what he would do in situations which are not only not pressing for adjustment at the time but which, as he himself vaguely feels, it is improbable he will ever meet. The lack of purpose in daydreaming is shown by the fact that one does not select one's problem and then mature, in imagination, effective ways of dealing with it, but instead drifts in accord with the mechanical laws of association of ideas. In daydreaming, then, imagination sports at its pleasure.

In *interpretative imagination* one follows the lead of another. One constructs in mind the scenes which this other describes.

Thus one sees before him the events which the historian narrates or the situation which the novelist describes. Here one's imagination is subordinated to leadership, but it is a leadership external to himself.

In *creative imagination* this type of mental activity reaches its highest form. Here imagination is fully subordinated to a purpose. Confronted by some problem to be solved one fits up in imagination a solution to it. Thus the inventor constructs in mind a machine adapted to doing a certain bit of work, the architect plans a house to meet prescribed requirements, the general formulates a plan of campaign and studies it for consistency and effectiveness, the preacher outlines in mind a sermon designed to carry a definite message, and the writer evolves a coherent plot for his story. Each constructs for himself, but he keeps his constructing directed toward his chosen end. It is, of course, needless to say that these three stages are not distinctly marked off from one another. The difference is only one of degree. They shade off into each other. Daydreaming involves a certain amount of purposive construction, for seldom does one plan adjustments to situations which he knows could not possibly confront him, and in interpretative imagination there is also always present some originality, hence some constructive imagination, for every one puts into an interpreted scene much out of his own personality.

DAYDREAMING. — Daydreaming is universal. By an inquiry directed to more than a thousand persons of all ages Mr. T. L. Smith¹ found only two or three who claimed that they never daydream, and even these gave evidence of having too narrowly restricted the meaning of the term. From children of the earliest school years up to centenarians, all are subject to reverie, and many are positively enslaved by it. Little children dream of good things to eat, of play and of playmates; later they fancy themselves living in fairy-

¹ Published as a chapter in Hall's *Aspects of Child Life and Education*.

land, often themselves holding the wand ; or they feel themselves flying through the air, or picture themselves as princes or princesses with magic adventures, or fancy that they are finding large sums of money and plan how they will spend it. Later they dream of owning bicycles, horses, automobiles, surpassing their comrades in some sort of contest, or winning honor, wealth, and high social position. Here are two accounts from youths (quoted from Smith) which ring true :

F. 10. — One of my daydreams was that I could live in a lovely castle. Eat good food, fruit, and vegetables. And be a fairy and have a wand. And I could have an hundred houses full of twenty dollar bills. And as many dolls as I would wish. And have doll carriages dressed in silk. It would be summer all the time. I could have white silk dresses, pink, blue, and bright gay colors. I could have as many boys and girls to play with me. And I could have story books.

M. 9. — Once I have thought that when I am a man I should like to be a millionaire and have a house with green grass as far as I could see. And a hundred horses, fine runners. And every day go out on some lake in a canoe better than anybody else. And the best horses in the world and all the things I could think of, I could have.

In adolescence (high school age) daydreaming is at its height. Here the boy pictures himself a lionized social leader, great orator, general, engineer, statesman, financier, and philanthropist. The girl dreams of being a self-sacrificing nurse, the champion of some great reform, or a successful singer, actor, or author. Love dreams, too, usually of the most ennobling character, are almost sure to find a place here. A boy of nineteen speaks for all when he writes :

As I have always wanted to be a lawyer, my air castles have always been of palatial law offices, stump speeches. Congress and the inevitable White House vision looms in the background. Every boy dreams of the presidency. I see myself delivering a powerful speech before some large audience, with roars of applause interrupting.

Legitimacy of daydreaming. — Now what shall we say of the legitimacy of this practice? Is it good or bad? Well, doubtless it would be too puritanic to condemn it entirely. Nature has given to us this power and she seldom does anything that is wholly wrong. In Smith's investigation the subjects were asked whether they thought daydreaming right or wrong, and most of the young children at least believed it right — believed it did them good. The older ones were inclined to think it good if confined within strict limits. They found it, when normally indulged in, restful and even inspiring. It represents the mind's play time, and there is no doubt that from play we often derive as much value as from work. Not only is play refreshing, but modern pedagogy has found it an indispensable basis for rounded growth. Herbert Spencer, who was himself a pronounced dreamer, says of daydreaming:

I believe that it is a general belief that castle building is detrimental; but I am by no means sure that this is so. In moderation I regard it as beneficial. It is the play of the constructive imagination, and without constructive imagination there can be no high achievement. I believe that the love I then had for it arose from the spontaneous activity of powers which in future life became instrumental to higher things.

Dangers: *Mental disorganization.* — But there is no doubt that daydreaming involves very serious dangers. Perhaps nothing will more quickly benumb the mental faculties for their normal work than it. An hour of daydreaming while one lies in bed in the morning often makes one dull during a good part of the day. Indeed, if not held in check and offset by healthy activity, daydreaming tends to drift into a sort of insanity. Mr. Smith cites the following two cases:

Ch. Féré cites an interesting case of a man who had been from childhood an inveterate daydreamer to an extent which seriously affected his college course. He had pursued in his dream a number of *fictitious* careers, military, marine, engineering, etc., which he

seemed to prefer to real life. On leaving college, however, he engaged in an active business career, was happily married, successful in his undertakings, and, having no time for daydreaming, seemed to have overcome the habit. A few years later, however, he began to suffer from insomnia, and at the same time became dissatisfied in regard to his business and household affairs. He took refuge in his former imaginations, and though these were less absorbing than formerly, they gradually became more persistent and finally acquired a fixed form in which he lived an ideal life in a chateau which he gradually elaborated. He acquired an imaginary wife and children, and manifested less and less interest in his actual family. He continued nominally to conduct his business, which, however, was really managed by his staff of employees. Finally, on an occasion when someone accosted him by name and wished to confer with him on business, he replied, "He is at Chaville," the name of his imaginary chateau. This betrayal of himself in public, however, startled him into a realization of his actual condition, and fearing himself insane he was ready to do anything to banish his ideas, but found that they had become his masters, and that against his will he constantly relapsed into his dreams. After three months of medical treatment, with strict supervision night and day to prevent any lapse into dreaming, he recovered.

As to the danger of daydreaming in a normal individual the following testimony of a man of twenty-six, who has carefully analyzed his own case, is of value. A. B. remembers that as early as the age of eight he was a dreamer, and says that his dreaming has been the happiest part of his life, but that "it has made it very hard, sometimes next to impossible, to pay attention to anything dull or abstract. All the will power I can bring to bear only serves to pull my mind back to what it ought to be busy with instead of keeping it steadily focused there. If one could dream up to the limit when one ought to dismiss it entirely and attend to the sterner things of life, I think daydreaming would be a veritable gift from the gods. But it is a curse when the habit becomes so fixed that a man can't pay attention to things which perchance have little natural interest for him."

Waste of time. — But even when daydreaming does not go so far as that of the above cases, it is likely to be a serious drawback. Even though the emotional strain produced no physical and mental fatigue, even though dreaming did not

grow upon one as a habit until it thoroughly possessed him, and even though one could at will rein himself in and begin his serious work, still much daydreaming would involve a costly waste of time. It replaces serious activity. "Those who build castles in the air pay rent to other people." Young persons commenting, in reply to Smith's questionnaire, upon their own experience in daydreaming made such statements as these:

I think children should try to stop themselves from having daydreams because when you are dreaming like that in school you might miss a whole lot of lessons.

Last year I would sit in school and think of everything but my lessons. I failed in the final examinations.

Dissatisfaction with routine. — There is no doubt, too, that daydreaming tends to make one dissatisfied with the prosaic work through which he must actually rise to achievements worth while. Dreaming is so easy and work so hard that one tends to slip into the former as a by-path and short-cut to a phantom success. Says a girl of eighteen:

I sometimes think it is wrong because it is apt to make you dissatisfied with your present life.

and a nineteen-year-old boy confesses:

The more I daydream the harder it is to come back to reality.

Professor MacCunn, in his book on "The Making of Character," says:

The other danger is daydreaming. There is an indolent and improvident cheerfulness which is content to feed on a diet of visionary schemes; and it is a faculty (or a failing) which often serves to carry its possessor lightly through much that is irritating, dull, or hideous in the actual life around him. At least it is an anodyne. But its weakness is disclosed in the hour of action. It is so easy, when the first sod of difficult duty has to be cut, to turn aside and indulge in easy imaginings of some fresh project. And so these builders of castles in the air grow old, cheerful to the end, cheerful — and ineffectual.

INTERPRETATIVE IMAGINATION. — But the dangers involved in daydreaming arise out of a misuse of a very valuable power. Mind was developed in man as a forerunner of conduct, and is functioning normally when functioning purposively. And functioning in this normal way the imagination is of the utmost value. We turn, then, to the second type of imagination.

Need for interpretative imagination. — It is easy to see that without interpretative imagination the presentation of any matter through language would be meaningless. The understanding of history is absolutely dependent upon it. If the narrative is to mean anything to us the incidents narrated must themselves go on before us. If we can not construct them in imagination, as they are related, the story can be for us little more than a jumble of words. Similarly, in literature the scenes described must appear vividly before us if we are to have more than fine phrases and rounded sentences. If we can not actually see Macbeth reaching for the phantom dagger, sit in the benches before Patrick Henry, as he delivers his famous address to the Virginia assembly, or stand with Longfellow on the bridge at midnight and share his feelings, these passages can be but sterile to us. In the same way imagination is necessary for any real appreciation of painting, sculpture, or music. These can not be taken in merely on the sensuous level, but must be interpreted, supplemented, lived through as if they were the realities which they symbolize. The understanding of science, too, is dependent upon imagination. Unless the descriptions and theories of astronomy, of physics, and of biology are translated into some concrete form, held in some way or other before the imagination, they are without real meaning. Even the simplest physical objects require for their appreciation a large play of imagination, since none of them carry their whole meaning in themselves but *require*, as we saw fully in our first chap-

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ters, a large ideal supplement which the imagination must supply.

Cultivation of interpretative imagination. — Since the interpretative imagination is so important it is worth while to cultivate it. This can be done, as in the case of other mental powers, by exercising it. Indeed the training of the interpretative imagination is practically the same thing as the training of mental imagery, about which we spoke in the preceding chapter; only there our interest was in the quality of the images in terms of which the construct is built, while here our interest is merely in the fact that the matter should be represented in *some* appropriate concrete way. And our method here will be the same as that recommended there: *i.e.* in reading one should try to get concretely before him the scenes described. In history, geography, and literature there are abundant opportunities for doing this. A large proportion of what they set forth is concrete and lends itself readily to specific imagery. If, as he studies these, the student will repeatedly construct before himself the scenes set forth he will, in consequence, get their content far better and, at the same time, develop a valuable faculty¹ — the power of interpretative imagination.

CREATIVE IMAGINATION. — But the faculty which we are discussing reaches its acme in the creative imagination. Here one constructs to meet a purpose. Here he tries out in idea what he is later to try out in reality. For example, one is confronted by the necessity of crossing a stream of water where there is no bridge. What he does is first to think out a solution. He says to himself that if he had a rail he could use it as a bridge. He goes further and criticizes this ideal construct by asking himself whether a rail would be really long enough, whether it would be sufficiently strong, whether

¹ Of course faculty is not meant here in the old Aristotelian sense. The student acquainted with the present status of the doctrine of Formal Discipline may prefer to say "habit" or "ideal" rather than "faculty."

it would enable him to maintain his balance as he crosses, what sort of a rail would answer best, etc. When he has satisfied himself with his ideal construction he proceeds to hunt the actual rail with which to embody his plan in action. Just so, also, does the inventor of a machine proceed. He first constructs his machine in imagination and, by criticizing his construct, assures himself that it is adapted in every detail to work. Only afterwards does he take concrete materials and shape them so as to embody his plan. The same method is followed by the writer of a novel, the debater, the painter of a picture, the composer of a piece of music. Each has a carefully criticized plan in mind in advance of its embodiment in concrete materials.

Development of imagination. — Since the creative imagination is so important it is plainly desirable to develop it as effectively as possible. By comparing the constructive imagination of children with that of adults we can get a clue as to the direction which such development must take.

Incoherence in children. — Constructive imagination is present from the early years of childhood. Indeed it is popularly supposed that it is more prominent in children than in adults. Judd has shown clearly that this is not true. The child has much less experience out of which to build, and his imagination could not have the scope which belongs to that of the adult. Any one who has observed the efforts of school children to make up stories for the language class can not help having been impressed with the poverty of their imagination. The stories which they can make up are extremely narrow in range and meager in content. Smith goes so far as to say that "Babies and idiots probably do not daydream, as they have not a sufficient store of mental impressions for reproductive combinations," and they doubtless imagine but narrowly for a number of years afterwards.

But there is a characteristic of the child's imagination which brings it the credit of being prolific — its lack of all re-

straint. The child is willing to admit into her scene the most improbable elements. A stump is for her a piano, a stone is a cookstove, her doll is sick and a doll physician must be called in to attend it. She is not at all troubled about the inconsistency between these suppositions and the real behavior of the objects. She has not yet come to the point where either speculative interests or practical necessities oblige her to think her world together into a coherent whole. Hence she does not criticize her imaginings, but allows them to take as fantastic and as incoherent form as chance suggests.

Coherence in developed imagination. — But the adult can not be satisfied with such inconsistent imaginings. He has got in the way of using these constructs as means of trying out his acts in advance, and has got into the habit of demanding that they shall represent reality. When he plans a house, a string of pebbles will not do for a wall, as it would not fulfill the purpose of a wall in the real world. Nor may his imagined house be built of diamonds nor filled with impossible furniture. He must think all parts together coherently and make his construct consistent with the purpose of the house and with his financial resources. So, too, if he formulates a scientific theory. He may not leave in it impossible elements. It must be thought about and recast until it is wholly consistent within itself, in accord with other accepted theories, and adequate to explain what it purports to explain. Similarly the novelist must make his piece of work consistent. Its characters must do only those things which are congruent with their natures. They must not suddenly change from bad to good or from homely to beautiful, nor may a fairy godmother with her wand, or the expedient of finding a pot of gold, be admitted as forces. The whole thing must fit in, too, at least reasonably well with the scheme of nature as we know it. All of this requires *that the mature imagination be not allowed to run riot,*

but that its products be, in the making, worked over, recast, forged into coherent wholes. All that occurs to the child, and much more besides, may suggest itself, but much of it is at once rejected. Such controlled imagination may seem more prosaic and cramped than the free imagination of childhood, but it is in fact immeasurably richer and more fruitful.

Constructive guidance of daydreaming.—The universal tendency to daydream requires, then, not inhibition, but only slight redirection to utilize it for the cultivation of that power of creative imagination which has been so potent in raising man above the lower animals, or in lifting one man above another. You dream, if you are like other youths, of some great invention which you will make, and doubtless have in mind some vague notion of what it is to be. But soon your thoughts turn from the invention as such to dreams about the resultant wealth and honor which are to come to you. Let these latter take care of themselves for a while. Earn the money before you spend it. Hold yourself to your invention. Think out its details. When you are baffled about some scientific principle that is involved, hasten to look it up at your first opportunity. When next your mind returns to the invention, build upon what you last thought out. Do not spend all of your time in retracing what you covered last time, but hasten on to the details not yet cleared up. Each time take note, mental or otherwise, of what you have so far clearly worked out and keep it as a basis for further constructive dreaming in the future. Again, you dream of yourself as delivering a great oration on a new constitution for your state. Then your mind turns to the crowds of people and the applause. Never mind these; they will come in their own time. In the meantime think out your speech in detail. Hasten home and look up the points upon which your information is deficient. Make notes of what you have worked out so far, and keep them

to be further perfected later. You picture yourself as nurse, college professor, or author. Let the thoughts of your reputation alone for a while, or, at most, let them be your incentive for work, and keep your imagination tied down to the task of constructing definite plans by which you can begin to realize your dream. It is through dreaming such controlled, systematized dreams that geniuses are made.

Training through everyday affairs. — Besides getting into the habit of subordinating imagination to a purpose, and criticizing its constructs, there are other means of exercising and developing it. There is one field where opportunities for doing this come to us every moment, which we usually fail to appreciate — that is, the field of ordinary daily activities. When we decide what clothes to wear for the day, when we undertake to nail two boards together, to hoe our garden, to make a snowball, or even to raise our foot for the next step, we are employing constructive imagination. For an image of what our act is to be, and how it is to result, must precede the act and guide it. The act, that is, must be performed in imagination before it is performed in reality, if it is to rise in the least above the level of wholly automatic acts. And of these countless acts in which imagination plays a part there are dozens each day elaborate enough to demand considerable constructive activity to think them through and foresee clearly their results before undertaking them. So whoever thinks as he works — turns to each detail with a notion of what he wishes to accomplish — and does not merely apply the trial and error method, characteristic of the lower orders of men and animals, is cultivating his imagination as he thus works and thinks.

Another and broader level on which one can exercise and develop the constructive imagination is in science and art. This should supplement that thinking about one's work of which we spoke in our last paragraph. It is a good school *practice* for the teacher to read to her class part of a story,

and then have the class finish it. Writing sequels to stories, or anticipating how a novel will end, provides the same sort of training. It is also worth while, for the sake of cultivating constructive imagination, for one to write stories of his own, plan essays, debates, and orations, or to think himself through difficult mathematical problems or complex mechanical situations.

Social relations. — Another level on which imagination needs to be cultivated is that of our social relations. Poverty of imagination often makes it impossible for us to sympathize as we should with others. This is particularly true of children. Why is the small boy cruel to animals? It is not because he is instinctively cruel, but because he does not appreciate the suffering of his victim. He is delighted with the way in which the mouse wiggles when he tortures him, or in which the cat squalls when he twists her tail. It is the activity alone that pleases him. He lacks entirely the power of imagination necessary to put himself in the animal's place. And the same thing is true, though to a less extent, among adults. To men and women in favored social positions it does not seem to occur that those in subordinate positions have feelings, and often they deal with these latter as if they were dogs. (I wonder, by the way, whether we might not get some new light if we could put ourselves in the average dog's skin for about half an hour.)

Very few people ever make any effort to put themselves in the shoes of one whom some great calamity has overtaken, as some supreme sorrow or, more particularly, some major punishment for crime. We feel a certain shyness in their presence, but draw our skirts together, shudder, — and perhaps console ourselves by believing that they can not possibly have quite the same feelings about the matter as we would have. When a punishment is very terrible even the would-be criminal can not any longer imagine himself suffering it, and, in consequence, when penalties are made

excessively severe they often have less power to deter from crime than have milder ones. In the same way a man who has taken to drinking, or to other dangerous vices, lacks imagination to see himself at the logical end of his course — in the gutter with the confirmed drunkard, in the hospital with his body eaten up with syphilis, or behind the bars with the detected criminal. There is no doubt that the tortures inflicted under the Inquisition in the Middle Ages were made possible by the inability of the leaders to put themselves in the place of the sufferers, and doubtless most of the hardness and apparent narrowness of the present is due to the same inability. It is an excellent practice — indispensable for the cultivation of a balanced personality — to try repeatedly to put yourself into the shoes of others, until you can come to appreciate the fact that they feel just about as you would under like conditions and can govern yourself accordingly.

Ideals. — But the highest level upon which creative imagination can function and develop is in the formation of ideals. All ideals are formulated here. They outrun attainments. They are the stars to which we hitch our wagons. Our ideal for ourselves is some state, far transcending that of our present attainment, in which we picture ourselves. Thus to establish goals beyond, toward which we may direct our efforts, is the great moral function of the imagination. He whom imagination does not plague with ideals is destined to grovel in the mire, both in body and in spirit, for no one can rise out of this except he be led on by these beacon lights.

The youth who does not look up will look down, and the spirit that does not soar is destined, perhaps, to grovel.

Build on and make thy castles high and fair,
Rising and reaching upward to the skies;
Listen to voices in the upper air,
Nor lose thy simple faith in mysteries.

Governor Brumbaugh, writing some years ago on the work of the imagination in the formation of ideals, says :

Thus the soul builds only chosen elements, rejecting all that are broken or unlovely or unworthy, into an ideal which it cherishes vastly more than any real because it is the best combination it can make from the best elements it can choose out of its whole treasury of knowledge. The function of this power of the soul is to create our ideals. God wants us to enjoy not only the finest scenes that fall within our ken, he also wants us to enjoy the finest things our souls can entertain. . . . Thus by eliminating the things we care least for, by substituting others that we care for, we build, bit by bit, our beautiful ideals — the soul images that so potently influence our lives. . . . Our minds are like the river that "glideth at its own sweet will." Thus we make the structure which at last we carve into a life of deeds. Without ideals there could be no progress, only endless and changeless, dreary and hopeless, monotony. Without ideals our minds would become like the wayside pool — stagnant and deadly. With ideals they become like the mountain rills that leap from moss-rimmed rocks in endless showers as silver spray clothed in rainbows and bearing in their sweet life beauty and grandeur. Happy the child whose unfettered spirit may build after its own plans the terraced slope, the sun-crowned spires, the carved pillars, and the golden portals of the temple of truth. Into it his spirit may pass to find the sweetest communions, and to gather inspiration for the highest achievements. It is the soul's most holy place. Here the divinity that is in us is enshrined. Here we may worship and adore.

Ideals must be intellectually criticized and emotionalized. — Our ideals are first our ideas of what our future is to be. In their less serious status they are merely daydreams to which we scarcely expect ever to attain, and which we do little or nothing to force into reality. But in their more serious status they become much more than this. We first evolve them out of the stuff from which dreams come. Then we criticize them, and eliminate from them all inconsistent elements and all wild fancies which we know to be beyond our possibilities of realization. What results is a

fairly definite idea of what we would be, which idea is possessed of a special grip upon us, as if we belonged peculiarly to it. Under such conditions our idea becomes our ideal. The ideal, thus, is no mere, inert idea, but an idea warmed and made dynamic by emotion.

And so to the formation of ideals there are two aspects. First is that intellectual clarification of which we just spoke. No one should merely fall upon his ideals. He should think about the goals which present themselves as ends of his strivings. He should select those which seem appropriate in his sphere. He should recast these so as to adapt them to his own individuality, free them from inconsistencies, assure himself that they are valid, rational, and possible of at least relative attainment. But such intellectual clarification of one's plan of life is not sufficient. It must be accompanied by the other step — sustained inspiration. It is this emotional dynamic that gives propelling force to one's plans and enables him to stick through the hard, monotonous toil by which his plans are to be realized. Such inspiration one can cultivate if he will. He can put himself in touch with friends who have inspiring personalities. He can seek opportunities for attending inspiring lectures. Particularly he can find strength in literature. There is a mass of literature which can renew again one's confidence and one's determination, of which it is enough to mention here "*Self-Help*" by Smiles, and the stimulating books of Orison Swett Marden. It is said that Roosevelt, when a young man, always carried with him a copy of "*Plutarch's Lives*," and it is a matter of history that the most effective soldiers of modern times — Cromwell's "*Ironsides*" — were constant readers of the Bible. There is no doubt that much of the power so evident in these men came from this reading of inspirational literature. It is not ideas alone, but ideas warmed with emotion, with inspiration, that get carried into action, and no one who *wishes to become a power in the world* can afford to forego

a single bit of such inspiration that it is possible for him to get.

Must be carried into action. — But ideals thus matured and emotionalized are good only on one condition — that they be carried into action. Otherwise they are morbid and destructive of personality. In a very famous passage, which every one should read, Professor James urged us to form the habit of carrying our emotions into concrete action if we would be helped instead of injured by them,¹ and Mr. T. L. Smith says :

We know that music, art, and literature are much indebted to the dreamers. But the mind must first be well stored, and there must be energy for the realization of the dreams. It is never to the idle dreamer that the creative impulse comes. Mozart and Raphael were dreamers, but the harmonies of the one and the visions of the other belong to the world only because their dreams received embodiment by alliance with the drudgery of practical work. Napoleon and Mohammed were, each in his own way, dreamers, but they were also men of action.

Orison Swett Marden writes :

Did Garfield sit still and dream of the days when his ideal should be fulfilled? If that had been his spirit and quality, he would have spent his whole life on the tow-path. But he labored persistently, studied hard, and "made things happen," instead of "waiting for something to turn up." When he wanted to improve his education at the seminary, he cut wood for fifty days in order to make fifty dollars to meet the expense. When he desired still higher culture, he became bell-ringer and general sweeper at the institute, so that he might pay his way. And when he went at last to college he managed, by strenuous purpose, and unflinching industry, to do in three years what most men could hardly accomplish in six. A man like that can do anything. It was as easy for Garfield to be President as to be mule-driver, — because he was always fitting himself for nobler service and more splendid achievement. He was a man of great dreams and lofty ideals, but he had the indomitable will which enabled him to realize and accomplish them.

¹ *Psychology; Briefer Course*, pages 147-148.

EXERCISES

1. Imagination is often thought of slightlyingly. Should it be? Why?
2. Try to think of some product of imagination which does not draw upon the past for all of its elements.
3. Is it true that no one should invent a new scheme except after having informed himself fully of what others have done in this field? How does this apply to school essays and debates?
4. What advantages can you see in daydreaming? What disadvantages? How is it related to the formation of ideals?
5. Can the developed imagination create or enjoy fairy stories and yet conform to its mature standards? How?
6. Show, in more detail than is done in the text, how imagination is needed for the full appreciation of music, painting, and other forms of art. Also for history and literature. How develop it?
7. Of what value has imagination been in the development of science? (See Creighton's "Introductory Logic," page 283.)
8. Of what use is imagination to (a) a football coach in planning plays? (b) To a speaker in preparing for a debate? (c) To the inventor? How can it be developed?
9. How can a boy in a shop cultivate the kind of imagination which leadership in his trade will demand?
10. Is the author's recommendation as to turning daydreaming to constructive use feasible?
11. Is the author correct in attributing lack of sympathy, and failure to check dangerous habits, to lack of imagination?
12. How are ideals formed? Can one have ideals which he does not put into practice? If so, what is their effect?
13. Is the author right in intimating that ideals should be chosen with reference to one's sphere in life, or should the choice of ideals be unconditioned?
14. To what extent do you believe one can make one's ideals a greater force by emotionalizing them in the way in which the text suggests?
15. Some one has advised us to "Now and then be idle; sit apart and think." What is the value of such periods of contemplation? What should be their relation to action? (See Mackenzie, "Manual of Ethics," pages 376-88.)

CHAPTER XVI

ATTENTION

Consciousness as hanging together in a sheet. — In our preceding discussion we have seen how present experience is built up out of elements furnished by sensation, or out of those recalled from the past. We spoke as if the constructs stood in consciousness clear-cut and self-contained. We must now confess that that way of speaking is not strictly true, but was resorted to only by way of convenience. We shall see instead that consciousness hangs together in a large sheet, and that the central idea is always linked up with a fringe of others.

In perception. — A percept, as we have long ago seen, can not exist in simple and isolated form. Consider your state of mind in perceiving a table. The table is not alone in consciousness. You see it in contrast with the surrounding parts of the wall and floor, and with other pieces of furniture. Indeed without such contrast it could have no meaning, for you define it — determine its limits — by setting it over against what it is not. So the ideas of these surrounding objects must be in mind along with the idea of table, only in the background, in the “fringe.” A notion of the various uses to which the table may be put, and of your previous experiences with it, are also present in nascent form, and they help to color the central idea. Without them, too, the table could have no meaning to you. Some feeling of the temperature of the room and of the noises going on outside are in your mind. There are, too, traces still persisting of the experiences which engaged you just be-

fore you came to look at the table, and some foreshadowing of what you are next to do is coloring your present consciousness. It is into that broad blanket of consciousness that the central idea of table is firmly woven.

In recalled experience. — And if no percept can stand alone, neither can any image recalled from the past. For such image must be called into mind by the idea which preceded it, in conformity with the laws of association. But this idea which led it in did not immediately give way to the new-comer. It only stepped into the background and remains to color the present idea in the same way in which the vaguely sensed surroundings of a perceived object modify the meaning of that object. Indeed not only the idea in mind immediately before, but the whole train of ideas for the last few minutes, or even longer, have left their color upon the present one. So, too, the turn which thought is next to take modifies what is now in mind. The next ideas are being already born, and are casting back their light just as those that are past are casting theirs forward. And so again, as in the case of perception, consciousness hangs together in a broad sheet.

Consciousness always in motion. — And this sheet, as it is woven, moves on continually through its loom. Nowhere does it stop while consciousness lasts. As soon as you have reached a decision on the point in question about the table, you pass on either to some other object or to some new problem about the table. Consciousness can not stop in its course without dying out. It is a process, not a thing. Its very essence is movement — classifying, relating, choosing — and when it ceases, even for a moment, to move it ceases for so long to exist.

Consciousness a stream. — We have compared consciousness to a sheet of which the whole woof and web are woven about the interesting center. But Professor James suggested a much better analogy, which psychologists have

generally accepted. This great Harvard professor pointed out that consciousness is like a stream. It is made up of elements, yet these elements fuse together into one unbroken whole; it is not one narrow line, but any imaginary line drawn through it is buttressed on either side by a mass of supporting elements; it is flexible and can turn to right or left into whatever channel is most open to receive it; it leaves no gaps and makes no sudden or unexplainable turns, but passes by continuous course from one stage to the next; and it moves continually on by the observer, some places faster, some slower, but never returns to retrace its course.

Its waves. — Now this analogy of the stream lends itself particularly well to the matter which now concerns us —

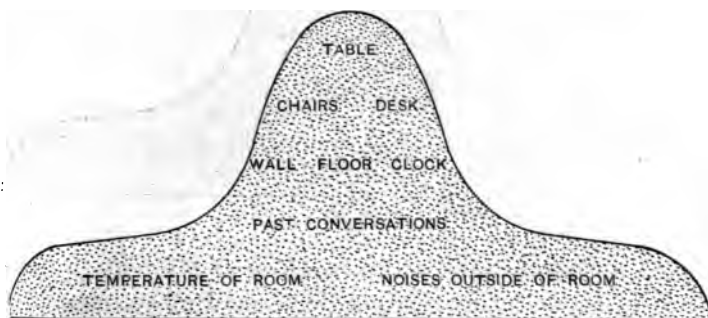


FIG. 25.

attention. A stream may be piled up into a wave. Such wave may be higher or lower, but it always has a crest which is supported upon a relatively broad base. Just so does consciousness behave. It is never a mere flat sheet. Center and margin do not remain on the same level. Instead, the central idea rises up "head and shoulders" above the others, while these latter group themselves around and below their chief and support it. In the experience with the table, spoken of above, the central idea stood out strong and clear above the surroundings. It was the crest of a

wave; the more or less hazy elements in the background made up the base upon which the crest was supported. We may represent the situation diagrammatically in the preceding figure.¹ When, however, you turn from an interest in the table to one in a chair in the room the wave shifts its character. Now an element previously at the base of the wave rises into the crest, and the former crest sinks back into the less favored body. This situation is represented in the following figure.¹ But always the stream of consciousness is

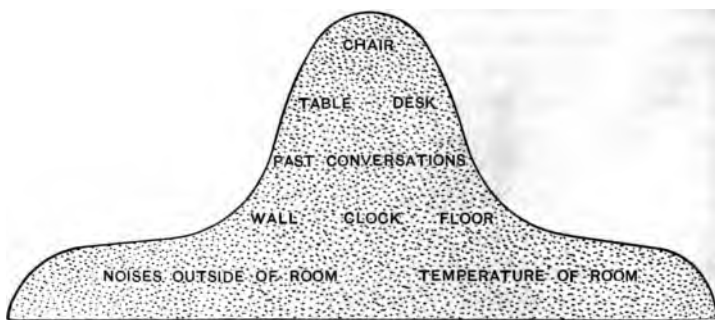


FIG. 26.

piled up into a wave with something or other at the summit — in the dominating position — and other elements in the base supporting it.

Attention. — Now it is this piling up of consciousness into a wave that gives us attention. Some object stands out clearly while all others are in the background. "Attention," says Bagley, "is best described as that *state* of consciousness that presents a focus and a margin."

Attention is, therefore, not a state of mind which we have only occasionally. It is merely one way of describing consciousness at every moment of its existence, so that we shall be here only viewing from a new angle the same old phe-

¹ These figures were suggested by analogous ones in Betts' *The Mind and its Education*, page 7.

phenomenon with which we have been dealing all along. When we thought of consciousness as containing elements brought over from the past, and recognized as belonging to the past, we called it memory; when we thought of it as rebuilding these old elements into relatively new constructs we called it imagination; when, long ago, we viewed it as interpreting situations with which we are confronted, we called it apperception. In this last case we saw quite plainly that consciousness is piled up in a certain way — is organized in a certain fashion — but our interest was there in the fact that what the presentation shall mean to us — how we shall interpret it — is determined by *how* the mass of consciousness is, at the moment, drawn up. Here we have that same phenomenon of the piling up of consciousness, only our interest is now merely in the fact *that* it is piled up. And it is this fact *that* it is piled up — that it surges up into some clear experience at its crest and groups a fringe of less clear elements about this — that we designate by attention.

Degrees of attention. — Attention, then, is always present. There is no such thing as inattention during our waking hours. What we call inattention is only attention in some other direction than that which is, at the moment, desired. Attention may, however, vary in intensity. Normally there is a considerable piling up of the stream into a fairly pronounced wave. But above this normal level attention may increase in intensity until even the most powerful stimuli, not directly related to what is at the focus, go unnoticed. In this extreme case one would neglect alike sensations of intense pain and pleasure, and would even be impervious to signals of imminent danger. Here the wave in the stream of consciousness has risen so high as to be practically a straight, vertical line. Similarly, below the normal level, attention may drop until it is almost equally receptive to all stimuli. In this equally extreme case nothing stands out with pronounced clearness, but the whole thought process tones

down to a state of vague and sleepy reverie. In its complete form this "diffused attention" would bring a condition of absolute mental blank in which all intelligence would be swallowed up. Here the wave has flattened out until it has become practically a straight, horizontal line. Seldom if ever do we reach either of these extremes, but between them attention assumes, at various times and in various individuals, all degrees of intensity.

Value of concentrating attention. — Now it is evident that a high degree of intensity (that is, concentration) is necessary for effectiveness. Attention has been compared to the passing of the sun's rays through a convex lens. Without the intervention of the lens the rays may have fallen for hours upon a piece of paper without producing any noticeable effect. But let them once be passed through the converging lens and almost immediately the paper will burst into flame. So with consciousness. One may *drone* over a lesson for hours, with attention scattered, and make little or no headway. But let him strenuously concentrate on his work, let him "gather up all his mental forces and mass them on the subject before him," and he can accomplish more in minutes than he previously could in hours.

Attention, to change the figure, is like a gang of workmen lifting at a heavy piece of timber. So long as they do not all lift together and lift hard the beam does not move at all, and their work goes for naught. But when they all heave together with all their might, and then all rest together, the beam gives way to their efforts. With vivid attention all the brain pathways related to the topic in mind are open into the central system — are trembling with nascent excitation — and are ready to supply their contribution to the solution of the problem on the slightest evidence that it is needed. The whole nervous system is on tiptoe, so to speak, and has its readiness directed to the matter that is *at the center of consciousness*. Indeed not only are the

outlying pathways in a state of *readiness*, but they *are* pouring in their contribution in the form of clarification of relations between the object at the center and those in the fringe, so that the object attended to takes on a high degree of clearness and of definiteness. Under strenuous attention, in other words, all the resources of mind and brain are working mightily together toward a single end. With less strenuous attention many relevant pathways are shunted around the center and all are characterized by a greater slowness and lethargy. Time spent on dawdling is worse than wasted. Unless one is ready to think *hard* it is scarcely worth his while to think about his problem at all. A college professor, according to Betts, once said to his faithful but poorly prepared class: "Judging from your worn and tired appearance, young people, you are putting in twice too many hours in a study." But when the class brightened up with encouragement he added, "But, judging from your preparation, you do not study quite half hard enough." And Betts goes on to say:

Happy is the student who, starting in on his lesson rested and fresh, can study with such concentration that an hour of steady application will leave him mentally exhausted and limp. That is one hour of triumph for him, no matter what else he may have accomplished or failed to accomplish during the time. He can afford an occasional pause for rest, for difficulties will melt rapidly away before him. He possesses one key to successful achievement.

Kinds of attention. — So attention should be fully concentrated upon the topic in hand if anything worth while is to be accomplished. But, unfortunately, attention has whims of its own, and does not always agree to be thus "reasonable." In spite of our wishes we do not find it by any means easy to keep attention concentrated upon one thing. In fact we must recognize three stages or kinds of attention in this respect: (1) Involuntary; (2) non-voluntary; and (3) voluntary. In the first attention goes

to some object in spite of us. Thus as we sit studying, and wishing not to be distracted by anything, our attention is called away by the slamming of a door or by some attractive conversation which we overhear. In the second — non-voluntary (sometimes called the spontaneous) — we neither force our attention nor fight against it. Thus to a fascinating book, to an interesting lecture, or to an attractive picture we may give this non-voluntary attention. Voluntary attention we give consciously and under the direction of our wills. We give it when we buckle ourselves down, in spite of resistance, to the study of the lesson which repels us. In order that we may know how to reap to the full the blessings of concentration, spoken of above, we must study the nature of each and the conditions of its control.

Involuntary attention. — Involuntary attention takes care of its own rights. It gets a hearing whether we wish to give it or not. It is commanded by such things as loud or unusual noises, large or strange objects, rapidly moving objects, brightly colored objects, objects which relate to some pressing instinct, as that of self-preservation or reproduction, problems which, for subjective reasons, weigh down heavily upon us — as some great anxiety — and many others of a like nature.

Biological explanation of involuntary attention. — This list explains why involuntary attention is permitted to remain such a spoiled child of nature. There are evident biological reasons why the objects which the list includes should have such an unshakable claim upon attention. For, throughout the history of the race, just these have been the major danger signals. The large, the strange, or the otherwise spectacular object threatens destruction, and one must immediately drop all else and adjust himself to the pressing situation which it signals. Likewise the loud or strange noise betokens possible danger, and the near, and, especially, *the rapidly moving objects* are the more threatening because

of the quickness with which they could overtake one. Hence these classes of objects have come to get an imperious control over attention. Unless everything else were dropped at once and adjustment were made to these objects, the result would not infrequently be fatal. And so the process of biological evolution has, by way of protection, and hence preservation for the individual, implanted the instinct of attending to them so deeply in man's nature that it can not be denied. Throughout racial history it has been indispensable, for very real dangers beset alike the lower animals and men on every hand. Under civilized life these dangers have been immensely lessened for man, so that, in ninety-nine cases out of a hundred, the only adjustment necessary is to decide quickly that the matter is of no importance, and to settle back at once into one's work. But in the hundredth case the instinct saves one from destruction by giving him effective warning against a coming automobile or train, a falling brick, or the beginning of a disastrous fire. It is true that the instinct often proves a handicap through interfering continually with one's attention to serious problems by all sorts of useless distractions. Yet nature will retain it as a compelling instinct so long as it has a function to perform — and doubtless long after — and our only relief is in learning how to modify and control it, not in trying to eliminate it.

It is due to this instinct that you are disturbed by any one's moving about or talking in the study hall. It is useless to blame yourselves for being disturbed; neither you nor any one else can help it. Something like the same distraction is inevitable where recitations are held in the room where others are studying. In the same way your attempt to study in the living room at home is likely to be largely unsuccessful. Even apparently trivial matters may serve as distractions. The story is told of a man who found himself one day unable to work effectively in his study. He was restless and dis-

turbed, yet could not tell why. Later he found that the cause was a nail, with a large bright head, which had recently been driven into the wall, and which had not yet come to fit in smoothly with his mental background. In Barbour's "Harvard-Yale Foot-Ball Story" there is a similar instance. The star player could not play in his usual style. Something interfered with the full concentration of his wits and his physical energy on the game. The cause was found to be a kite which a small boy was flying high above the field.

Control of involuntary attention. — One can partly overcome these distractions by becoming accustomed to the situations which cause them. After one has been for some days in the noisy room he is not so much disturbed by the noise. Because it is no longer a new situation it does not any longer belong to that class of objects which give biological danger signals, and hence does not any longer appeal to the old instinct. Yet this applies only to those elements which are *regularly* recurring — the everyday routine of the room, such as that of the recitation. Any irregular talking or moving about remains inevitably distracting. Of course one can also fortify himself against these distractions by strong resolution, but he does so at the cost of nervous energy and of a certain unfortunate division of his intellectual and volitional powers. One can also in time — and should — cultivate something of a generalized habit of disregarding certain kinds of distractions. But the best solution is to be found in keeping down the distractions. Students should coöperate with teachers and parents in reducing to a minimum talking and other noises and moving about the room. At home the pupil should have a quiet room for study, which is not also used as a living room. And finally he should conform as largely as possible to a fixed routine — a fixed time and place for each task, even to the extent of the same chair and the same position with reference to the *light*, study-table, etc. This will save loss from division of

energy between his work and new and hence distracting experiences.

Non-voluntary attention. — The second type of attention — the non-voluntary — also requires no forcing. Interest leads it on. During most of our time our interest is of this spontaneous kind. As we daydream, as we make more serious plans which we pursue with interest, as we read a book which holds us in its grip, as we hear a lecture to which we need make no effort to attend, as we listen to the conversation of our friends, it is this second type of attention that we are giving. Such attention is normal. If directed into proper channels it constitutes the ideal functioning of the mind. The other two kinds of attention can function for only a few moments at a time. They can only jerk our thoughts to some new topic. But, if we are to stay by this new topic for any fuller consideration, attention must begin forthwith to function in this spontaneous way. We must see, then, what are the conditions of this normal functioning of the mind.

Control of non-voluntary attention: (1) APPERCEPTION. — The first condition is that of apperception. Before we can be normally held by any matter we must bring to it the necessary past experience to enable us to understand it and to appreciate its value. We will not long attend to any matter which is outside the range of our experience and our sense of values. This is illustrated by the case of some western Indians who visited for the first time a great industrial city. They were shown the steam shovel at work, skyscrapers in process of erection, and many other mechanical wonders of the age, but they stood in stolid indifference. When, however, their eyes chanced to catch some repair men climbing telephone poles they were transported with excitement and wonder. The rapid pole climbing lay near enough to their own experiences to be appreciated, and hence to be followed with eager attention, while they found

in the more complex situations too little which they could understand, or in which they could imagine themselves participating, to draw them on. So whoever would secure and hold spontaneous attention to any matter must so select it and so present it as to conform to those laws of apperception which we discussed in our early chapters.

(2) *INTEREST*. — The second condition is interest. This really grows out of the first. Interest and non-voluntary attention are not to be separated. Where there is interest there is, with no further ado, attention; where interest is lacking, attention too will at once lag. In fact, as we saw in our third chapter, interest is nothing else than the dynamic outgoing of the self after what it feels is needed to fill a gap in its perfection. It is an intellectual hunger which bestirs consciousness to a strenuous effort to lasso the game which it foresees will appease its appetite. And, of course, so long as this appetite is kept keen by getting from moment to moment only such tastes of its prey as keep its mouth watering, consciousness will continue to plunge on in unabated pursuit, no matter through how tangled a jungle it be led. And this outgoing the mind does in the form of spontaneous attention. Quarreling with inattention is next to useless. If one's attention balks he needs somehow to seek an interest in what he is doing, or put one there. If he is failing to get the attention of others he needs to look to himself for the cause. If he can make the matter interesting — make it appeal to his auditors as worth while — he will get attention as a matter of course. If he can not do so, he can not get attention for any length of time by demanding it, nor can even his auditors do much to help him in such artificial battle.

(3) *DEVELOPMENT OF THE OBJECT*. — And finally, the development of the object is a condition of spontaneous attention. There have been men so foolish as to hold up, as the ideal, the ability to attend for half an hour to the point of a

cambric needle. Now in fact such sustained attention to an undeveloping object is neither possible nor desirable. If one succeeded in doing it, it would bring him not wisdom but stupor. In fact to attend strenuously, for even a few minutes, to a meaningless object will throw one into the hypnotic state. The only condition under which one can attend is that the object develop — reveal different aspects of itself at each succeeding moment. As soon as it stops doing this so soon will attention inevitably wander from it to something that is new.

The effect of development can readily be seen by studying the following stereoscopic slide. Hold it before the

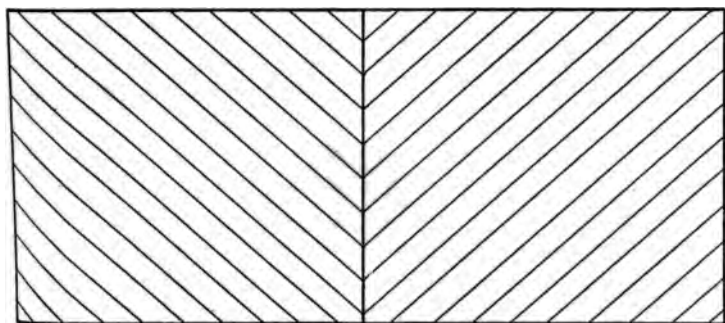


FIG. 27.

face so as to be parallel to the line of the two eyes. Then look with the right eye at the side of the screen in front of that eye, and with the left eye at the left side. (You can do this by fancying that you are looking through the screen at some distant object.) The two screens will now swim into one, but you will not see both sets of lines at the same time. The two sets will alternate at nearly regular intervals. But if you will try to find new facts about one of them — will study the angle at which the lines are set, their distance apart, their length, etc. — you will find your-

self able to keep it before you much longer. But as soon as you stop looking in it for new facts attention to it will weaken, and it will at once give way to the other set of lines. If you do not succeed in getting results with that figure try

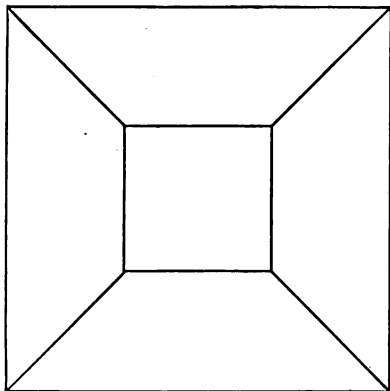


FIG. 28.

Fig. 28. Try whether you can continue to see it for a longer time as a railroad tunnel, by studying how long the tunnel is, whether the farther end is quite square, etc.

It is of the utmost importance that conversationalist, teacher, speaker, or writer take account of this necessity that the object develop. If one is to hold attention he must

move on with his exposition. If he stop a minute too long — if he linger to explain or illustrate any matter after it has been understood — he does so at the risk of tiring out the attention of his auditors. At such moments the mind is finding no new phase of the subject to engage it, and it will be strongly disposed to wander away to something that is new, and will tend to remain in pursuit of its more lively prey. On the other hand, neither may the speaker move too rapidly. If he does so he will surpass his auditors' ability to understand, and again the subject will have essentially ceased to develop *for them*. For it is the auditors' own thought about the subject that must develop, and, so soon as it goes beyond their ability to understand, it becomes to them a mere blank — as sterile as if it were in itself motionless — no matter how logical its development may seem to the speaker. An exposition too meagerly developed for one *really* to understand puts him to sleep just as surely as one

that is tediously overelaborated. So success demands that one move on with his topic at just the pace at which the specific audience before him can follow. If he miss this pace in either direction, he will inevitably forfeit the attention of his hearers.

Voluntary attention. — Spontaneous attention is the most desirable type, but unfortunately the channels in which it tends to run are often not the right ones for our purpose. Then there must be brought into play our third kind — voluntary attention — that which follows the direction of the will. Every one knows what it is to give this sort of attention. Every one has met many occasions when he found it necessary to jerk his attention back from some pleasant course which it was following, and force it in some direction which, at the time, was not attractive. This is made necessary by the fact that one has plans for one's life which can not be realized by drifting. Their realization often demands that one turn himself into steep and thorny paths and drag himself through them by strong force of will. * And the ability to give voluntary attention is indispensable for this. Whoever does not possess this ability will be left hopelessly stranded on the barren shores of Wish Island.

Attention must become spontaneous. — But, important as it is, voluntary attention can be given for but a short time at once. It is probable that, by mere force of will, one can not hold attention to an object for more than a very few seconds. After this time fatigue becomes so great that either one's thoughts inevitably wander from the object or he is thrown into the hypnotic state. What we take for sustained voluntary attention is in reality a series of instances of jerking a wandering attention back to the object, not one prolonged and unbroken force of will. All that voluntary attention can do is to give the object a chance by getting the mind introduced to it; it must then hold the

mind by its own entertaining qualities, though the will may jerk the mind back to the object again and again, and thus give it repeated opportunities to hold attention by its own worth. But in every case the non-voluntary attention must, in a very short time, take up the work begun by the voluntary.

This, in fact, it can ordinarily do. There is scarcely any object so barren that it is not of some interest when one has once got into it. The difficulty is to get oneself well started. You have often had the experience of sitting down to a task with extreme reluctance and forcing yourself into it; and yet, after you had thrown yourself faithfully into it for a little while, you have found it take on unexpected life and hold you in its grip for a long period. Latin and mathematics may be hard to get into, but when you are once launched into them an hour often passes before you realize it, so absorbed have you become in their study. Thus attention does not only follow interest but also creates it.

Hence, if you would give effective attention, you must get into the spirit of your subject. This is as much a matter of your own coöperation as of the subject's nature. If you really try, you can find an interest in anything to which it is necessary to give attention. You must seek to understand it, stop and turn it over in your mind, ask yourself questions about it, take notes on it, and in every other way seek to find in it that which makes it worth while. In nearly every case you will find it taking on vitality and interest, and sometimes a supreme interest. Indeed if you do not find the subject taking on interest and gripping you, it is probably because of your own poverty of intellect. You are not finding what is really there. A blank intellect will find any subject blank. So do not be too ready to accuse a book or a lecture of lack of intrinsic interest, lest the accusation react against yourself. A mind better equipped than your own would probably find it throbbing with vitality and with interest.

Need remains for voluntary. — But, important as it is that the spontaneous attention should take over the work of the voluntary after the first few moments, the voluntary can never be entirely eliminated. It will still be necessary to bring you to certain subjects and get you started into them. Moreover, many times attention will wander from your topic and will need to be recalled to it. This again is the work of the will. So whoever would become master of his mind, must form the habit of giving voluntary attention to those subjects which require it. The ability to do this is the distinguishing mark of the man of large achievements. Such man, as well as the rest of us, is often tempted to dillydally. But he has long been denying this lazy tendency until it has learned its lesson, and is frightened away at the first show of teeth. He has become accustomed to commanding his powers and settling down to work without giving a hearing to the temptation not to do so. If you are to amount to much, you must make your mind your own. You must direct it where you would go, instead of passively allowing it to lead you in a butterfly chase to no place in particular. When a task is yours for the hour, attend to it. If attention tends to wander from the topic into other fields, — and even important fields, — call it back. There will be other days for tracing out these tangent paths, if they are worth tracing, but to-day your task lies nearer at hand. If you allow yourself to be deflected from your topic by a related suggestion, and then perhaps deflected from that to another, and so on, you will get nowhere. To-day your task is to listen to this lecture, or to study this lesson, or to solve this problem, and it is to this task that you should devote yourself. One thing at a time is just as good maxim for the work of attention as it is in any other field.

Cure for mind wandering. — Halleck gives the following remedy for mind wandering:

A sure cure for mind wandering is to make an abstract from memory of sermons, speeches, or books. If one is reading a work on history, let him, after finishing a page, close the book and repeat to himself the substance of that page. If he can not do so with one reading, let him reread until he can. It does not show good generalship to march into a hostile country, leaving forts and armies unconquered in the rear. After finishing a chapter, let him repeat to himself, or to some friend, the substance of that chapter. At the end of the book, let him repeat the main facts in the entire work. The mind may wander at first, and scarcely anything may be retained from one reading; but as soon as the mind feels that it will be surely called upon to reproduce what has been read, its energy will be doubled. It will soon cease the lazy habit of merely allowing impressions to come in to meet it; it will reach out to meet the impressions.

The writer knows of a case of mind wandering cured by the oral recital and the making of a written abstract of the substance of three books, — an English history, John Stuart Mill's "Political Economy," and a textbook on psychology. The chapters were in every case reread until a full abstract of each could be written down from memory.

Fundamental likeness of the three forms of attention. — We have recognized three forms of attention — involuntary, non-voluntary, and voluntary. We must now admit that the difference is not fundamentally so great as may have been implied. In fact, they are at basis one — non-voluntary. They all follow interest; only in two cases the interest is somewhat more remote than in the third.

It is quite evident that the non-voluntary follows interest. Here the self feels a need — questions to be answered, curiosity to be satisfied — and reaches out for what will fill that need. But in involuntary attention that same thing is really true. Only here the needs that push themselves suddenly to the fore are deep biological ones. Through instinct the self is put on its guard against anything that may destroy it. Consequently when any situation that may involve danger presents itself there surges up from the depth of the self the question, "Is there not danger here?" and

attention obeys its regular law in swinging into line with this major interest of the self until its question has been answered. So involuntary attention also represents a movement from within after that which will satisfy the self as much as does the non-voluntary, only the sense of need is here taken care of on a different level, namely, that of instinct rather than of consciousness. Objects do not really thrust themselves upon involuntary attention from without, as they seem to do.

Nor is the case different with the voluntary. Here also the self feels a need and directs the mental processes toward the fulfilling of that need. Only here the valued end to be realized is more remote. But the mind goes out in pursuit of satisfaction of its own hunger in all three cases.¹ As we saw in our study of apperception, so here we see again, there is no such thing as the outside world thrusting itself upon us. We ourselves must reach out for it. We shall soon have occasion to apply this fact in answering the very important question whether one's life is determined by his environment or by his own choice. (See Chapter XVIII, on Character and Will.)

Range of attention. — How many things can be attended to at the same time? Many persons can carry on a conversation while they play the piano, or while they typewrite, and Cæsar is said to have been able to dictate four letters while he wrote a fifth. Are these persons attending to several objects at once? Space permits us to answer here only dogmatically, no.² They are *doing* several things, but only because all but one of them is being carried out on the habit level. Several things can be *done* at once, but only one *thought of*, though this one thing may be complex — may consist of related elements reacted upon as a

¹ See Angell's *Psychology*, pages 88–92.

² For a fuller development of this see either Angell's *Psychology*, pages 96–98; or William James' *Psychology*, *Briefer Course*, pages 219–220.

unit. Where several disconnected acts, which are not purely automatic, go on together, it is only because attention oscillates rapidly between them, each time planning the following steps for some distance ahead, and charging the physical organism with their execution, before it passes on to the next. Thus the piano player is sometimes, for short intervals, withdrawing her attention from her conversation and centering it upon her playing, but her nerve centers have been so charged in advance that they can carry to completion automatically the sentences which she had already consciously planned, and something like the same thing is true in every case of divided attention.

Effect of dividing attention. — To attempt, therefore, to attend to several things at once will inevitably weaken the attention given to each. Yet we often undertake to do this and do not recognize the resultant waste. Pupils learning to typewrite are tempted to engage in conversation with other pupils in the room, believing that this does not interfere with their typewriting. It does interfere. Experiments have shown clearly the necessity of keen attention to what one is doing if one would make maximum progress in the formation of any habit, and conversation, or any other occasion for divided attention, inevitably retards this progress. Women, even school teachers at institutes, not infrequently take their crocheting to lectures, claiming that they can follow the lecture just as well while crocheting as otherwise. They are deceiving themselves. They can not do so. Of course they can keep a running sense of what is being said, but they can not possibly grasp the message as fully as if they centered attention wholly upon it. One thing at a time, and it done vigorously, is a good motto here as elsewhere.

EXERCISES

1. By means of other examples than those of the text, show that any element at the focus of consciousness is linked up with a fringe of others.

2. Is it true that consciousness is always in motion?

3. Consciousness has been compared to a sheet, a stream, a field, and a pool. Which is the best analogy, and why?

4. Is it true that inattention is only attention to the wrong things? Give examples.

5. What are the respective advantages and disadvantages of a long period of moderate attention and a short period of strenuous attention?

6. To what extent do you find that noises, or unaccustomed surroundings, interfere with your work? What remedy do you propose?

7. What is the relation of genius to attention? (See James' "Psychology," pages 227-228.)

8. Under what conditions does a book or a lecture put you to sleep?

9. When we say that the topic must develop do we mean develop for us as hearers, for the speaker, or for some impartial spectator? Could it develop for one or both of the latter without doing so for the first?

10. Can a speaker obey the injunction to adapt his pace to that of his auditors? By what signs can he know whether or not they are keeping with him?

11. Is the author's advice regarding voluntary attention practical?

12. Is mind wandering ever justifiable? What is its relation to mental recreation?

13. Do you believe that one can talk while working without interfering with one's work?

CHAPTER XVII

THE MAKING AND BREAKING OF HABITS

One day through the primeval wood
A calf walked home as good calves should ;
But made a trail all bent askew,
A crooked trail as all calves do.
Since then three hundred years have fled,
And I infer the calf is dead.

But still he left behind his trail,
And thereby hangs my moral tale.
The trail was taken up next day
By a lone dog that passed that way ;
And then a wise bell-wether sheep
Pursued the trail o'er vale and steep,
And drew the flock behind him, too,
As good bell-wethers always do.
And from that day, o'er hill and glade,
Through those old woods a path was made.

And many men wound in and out,
And dodged and turned and bent about,
And uttered words of righteous wrath
Because 'twas such a crooked path ;
But still they followed — do not laugh —
The first migrations of that calf,
And through this winding woodway stalked
Because he wobbled when he walked.

The writer proceeds to tell us that the path became a lane, and that the lane became a road, where many a poor horse toiled on with his load beneath the burning sun and traveled some three miles in one.

And men two centuries and a half
Trode in the footsteps of that calf.

* * * * *

For men are prone to go it blind
Along the calf-paths of the mind,
And work away from sun to sun,
To do what other men have done.

A passage often quoted M. Leon Dumont says :

Every one knows how a garment, having been worn a certain time, adapts itself to the shape of the body better than when it was new ; there has been a change in the tissue, and this change is a new habit of the tissue ; a lock works better after having been used some time ; a greater outset more force was required to overcome certain roughness in the mechanism. The overcoming of their resistance is a phenomenon of habituation. It costs less trouble to fold a paper that has been folded already. This saving of trouble is due to the essential nature of habit, which brings it about that, to reproduce the same effect, a less amount of outward cause is required. The fingers of a violin improve by use in the hands of an able artist, because the fibers of the wood at last contract habits of vibration adapted to harmonic relations. This is what gives such inestimable value to instruments that have belonged to great masters. A river, in flowing, hollows out for itself a channel, which grows larger and deeper ; and, after having ceased to flow, it resumes to flow again the path traced for itself before.

Now it is this same principle that, when applied to man, creates a habit. Marden remarks :

When the angels were consulted whether to create man with this principle introduced, that if a man did a thing once, it would be the second time, and at length would be done without effort, they could have said " Create."

Now whether or not the angels were called upon for such a principle it is upon that plan that man was created. As John Hood says :

There is a beautiful provision in the mental and moral arrangement of human nature that that which is performed as a duty may, by frequent repetition, become a habit ; and the habit of stern virtue, so valuable to others, may hang around our neck like a wreath of

Habit has physical basis. — And the basis of habit is identical with the basis of the uniformities quoted above — the material law, namely, that a substance cast once or more into a certain shape will tend either to retain, or to return again to, that shape. Only in the case of habit, properly so called, the substance involved is the nervous system and the particular effect retained is the pathways made through this by nerve currents.

Learning to play the piano. — An illustration will make this clear. When one first undertakes to play the piano there is required a specific conscious adjustment. One first hunts out a correct key, places his finger upon it, and presses it down. Then he hunts the next and does likewise, and so on, every time giving attention to each single adjustment. But by no means so later. Sir James Paget tells us that :

A practiced musician can play on the piano at the rate of twenty-four notes a second. For each note a nerve current must be transmitted from the brain to the fingers, and from the fingers to the brain. Each note requires three movements of the finger, the bending down and raising up, and at least one lateral making no less than seventy-two motions in a second, each requiring a distinct effort of the will, and directed unerringly with a certain speed, and a certain force, to a certain place.

Now what has happened between the awkward start and the masterful ending is this : at first the motor impulse had to be sent from the brain to the fingers through new and uncertain pathways. And so attention had to be given to the passage of each separate impulse, which even then could not execute its function without considerable diffusion and losing of its way. But after the same note had been found and pressed several times a clearcut pathway had been formed between the brain and the muscles involved in this act, over which the currents could pass readily and without *wavering*. Attention, too, could be largely withdrawn from

the details of the adjustment and given to larger relationships. The same process had been going on with the finding and pressing of the other notes, so that the practice had reached such stage that it was only necessary to *think* each note, and the impulse was able to run down its ready-made channel and almost automatically play its part.

Then came another stage in development. These single note pathways came to be connected into a system, so that one could think together the notes of a whole measure, and have this idea distribute its motor currents into the right neural pathways to play the series of notes. And at length the system of pathways has become so interconnected and perfected that one can let one's eye merely run along the bars, until he catches in feeling the meaning of the whole piece, and these incoming stimuli of themselves rattle out through their appropriate channels and set the necessary muscles into operation to execute the music correctly.

Other illustrations.—Similarly, in the habit of saluting a friend, the sensations which one interprets as from the presence of a friend run into the brain and are, by previously formed pathways, switched right into the motor nerve channels leading out into the muscles of the arm, and in response the arm goes up. Every time that particular combination of stimuli flows into the brain it is, through an open switch, at once directed out into its customary channel, and the proper response results. In an established habit very little consciousness attends the process. One is, of course, more or less aware of what is going on, but as onlooker rather than director. Indeed one is usually cognizant of the act only after it has occurred and, if he for once attempts to check it, often finds himself in the embarrassing position of doing so when it has been already half completed. Once formed the pathway permits the nerve current to run almost automatically through it, conscious control of the process sinking to a lower and lower level as the pathway is made

deeper until, in such well-learned habits as that of walking, it has all but disappeared.

Every habit is due to just this sort of physical mechanism. "An acquired habit, from the physiological point of view, is nothing but a new pathway of discharge formed in the brain, by which certain incoming currents ever after tend to escape." This, you see, is identical with the physical basis of memory. In fact memory and association may appropriately be considered special forms of habit. In consequence all the laws which were laid down in our study of memory may be brought over and applied to habit in general.

Relentlessness of habit. — This fact that habit has a physical basis is one of the utmost practical consequence. Because of it habit is governed by that inexorable physical law which shows toward mortals neither fear nor favor. Says Betts:

So delicate is the organization of the brain structure and so unstable its molecules, that even the perfume of the flower, which assails the nose of a child, the song of a bird, which strikes his ear, or the fleeting dream, which lingers but for a second in his sleep, has so modified his brain that it will never again be as if those things had not been experienced. Every sensory current which runs in from the outside world; every motor current which runs out to command a muscle; every thought which we think, has so modified the nerve structure through which it acts, that a tendency remains for a like act to be repeated. Our brain and nervous system is daily being molded into fixed habits of acting by our thoughts and deeds, and thus becomes the automatic register of all we do.

The old Chinese fairy story hits upon a fundamental and vital truth. These celestials tell their children that each child is accompanied by day and by night, every moment of his life, by an invisible fairy, who is provided with a pencil and tablet. It is the duty of this fairy to put down every deed of the child both good and evil, in an indelible record which will one day rise as a witness against him. So it is in very truth with our brains. The wrong act may have been performed in secret, no living being may ever know that we performed it, and a merciful Providence may forgive it; but the inexorable monitor of our deeds was all the time beside

us writing the record, and the history of that act is inscribed forever in the tissues of our brain. It may be repented of bitterly in sackcloth and ashes and be discontinued, but its effects can never be quite effaced; they will remain with us as a handicap till our dying day, and in some critical moment in a great emergence we shall be in danger of defeat from the effects of that long past and forgotten act.

Entraps by degrees.—The unlimited optimism of young people almost invariably blinds them to the inexorableness of the laws of habit. They have been so accustomed to being treated with indulgence by those who govern them that they fondly expect nature, too, to be “reasonable.” Like Rip Van Winkle, in taking one by one the drinks which he had resolved to quit, they say, “We won’t count this time.” But the nervous system counts it. No current can ever pass through it without leaving behind its effects, whether one wishes an effect to be left or not. I used to be told that Satan never captures a person by one bold attack but, each time he can get him to do a bad act, winds one more round of his cord about him until at last he has him bound securely fast. Certainly it is in this way that bad habits act. It is not suddenly and with a flare of trumpets that they capture one, but silently, little by little, as the fabled camel that begged shelter only for his nose in his master’s tent, but, when he had secured this, gradually worked himself further in until he ended by kicking the owner out.

Let no one deceive himself about his ability to practice undesirable acts and yet escape their clutches. Professor Phelps told of some Andover students who, for sport, interchanged the initial consonants of adjacent words. “But,” said he, “retribution overtook them. On a certain morning when one of them was leading the devotions, he prayed the Lord to ‘have mercy on us, feak and weeble sinners.’” Says Dryden:

Bad habits gather by unseen degrees,
As brooks make rivers, rivers run to seas.

J. B. Gough portraying in a vivid figure this gradual tightening of the grip of habit, writes :

Now launch your bark, on that Niagara River: it is bright, smooth, beautiful, and glassy. There is a ripple at the bow; the silvery wake you leave behind adds to your enjoyment. Down the stream you glide, oars, sails, and helm in proper trim, and you set out on your pleasure excursion.

Suddenly some one cries out from the bank, "Young men, ahoy!" "What is it?" "The Rapids are below you." "Ha, ha! we have heard of the Rapids, but we are not such fools as to get there. If we go too fast then we shall up with the helm and steer to the shore; we shall set the mast in the socket, hoist the sail, and speed to land. Haste away!"

"Young man, ahoy, there!" "What is it?" "The Rapids are below — the Rapids!" "Ha, ha, never fear! Time enough to steer out of danger when we are sailing *swiftly* with the current. On! on!"

"Young men, ahoy!" "What is it?" "Beware, beware! The Rapids are below you!" Now, you see the water foaming all around. See how fast you pass that point! Up with the helm! Now turn! Pull hard! quick, quick! — pull for your lives — pull till the blood starts from the nostrils, and the veins stand like whipcord on the brow! Set the mast in the socket! — hoist the sail! Ah, ah! — it is too late! Shrieking hopelessly over you go.

Thousands go over "rapids" every year, heedless of the still, small, warning voice.

Progress also by degrees. — But the converse of all this is, happily, also true. To quote Professor James :

As we become permanent drunkards by so many separate drinks, so we become saints in the moral, and authorities and experts in the practical and scientific spheres, by so many separate acts and hours of work. Let no youth have any anxiety about the upshot of his education, whatever the line of it may be. If he keep faithfully busy each hour of the working day, he may safely leave the final result to itself. He can with perfect certainty count on waking up some fine morning, to find himself one of the competent ones of his generation, in whatever pursuit he may have singled out. Silently, between all the details of his business, the *power of judging* in all that class of matter will have built itself up within him as a possession that will never pass away. Young people

should know this truth in advance. The ignorance of it has probably engendered more discouragement and faintheartedness in youths embarking on arduous careers than all other causes put together.

Value of habit. — And the blessings of habit are vastly greater than its drawbacks. It reduces to the automatic level nine tenths or more of the details of our conduct, and leaves us free to turn our minds to larger and newer problems. Dr. Maudsley says :

If an act became no easier after being done several times, if the careful direction of consciousness were necessary to its accomplishment on each occasion, it is evident that the whole activity of a lifetime might be confined to one or two deeds — that no progress could take place in development. A man might be occupied all day in dressing and undressing himself ; the attitude of his body would absorb all his attention and energy ; the washing of his hands or the fastening of a button would be as difficult to him on each occasion as to the child on its first trial ; and he would, furthermore, be completely exhausted by his exertions. Think of the pains necessary to teach a child to stand, of the many efforts which it must make, and of the ease with which it at last stands, unconscious of any effort. For while secondarily automatic acts are accomplished with comparatively little weariness — in this regard approaching the organic movements, or the original reflex movements — the conscious effort of the will soon produces exhaustion. A spinal cord without . . . memory would be simply an idiotic spinal cord. . . . It is impossible for an individual to realize how much he owes to its automatic agency until disease has impaired its functions.

On this same subject Professor James, in his "Talks to Teachers," remarks :

The more of the details of our daily life we can hand over to the effortless custody of automatism, the more our higher powers of mind will be set free for their own proper work. There is no more miserable human being than one in whom nothing is habitual but indecision, and for whom the lighting of every cigar, the drinking of every cup, the time of rising and going to bed every day, and the beginning of every bit of work are subjects of express volitional deliberation. Full half the time of such a man goes to

the deciding or regretting of matters which ought to be so ingrained in him as practically not to exist for his consciousness at all. If there be such daily duties not yet ingrained in any one of my hearers, let him begin this very hour to set the matter right.

We should then "make our nervous system our ally rather than our enemy." We *must* form habits; the only question can be, What habits? And by observing the laws of habit formation, and letting our intelligence coöperate in the process, we can build out of our natures marvelously effective machines. Nor do we use the term "machine" here disparagingly, for not only our industrial work, but also our social effectiveness, our intellectual activities, our moral conduct, and even our religious devotions can be made effective only by containing a very large and important portion of habit elements. Indeed in the building of a life there is no more significant phase than that of intelligent and effective habit formation.

Requirements in habit formation. — But good habits do not form themselves. They must be fought for. To build a life is an uphill game, and requires that one be eternally on the job. Two things effective habit formation demands: the first is repetition; the second, the focusing of attention upon the end to be attained while the repetition is going on. We shall consider them in turn.

Repetition. Whoever expects to attain to mastery in a day, where habit factors are involved, will be soon undeceived. In "Daniel Deronda" George Eliot has Klesmer counsel in this way Gwendolen, the butterfly of society, who thinks that, with a little polishing, she can be rounded out into a musician:

Any great achievement in acting or in music grows with the growth. Whenever an artist has been able to say "I came, I saw, I conquered," it has been at the end of patient practice. Genius at first is little more than a great capacity for receiving discipline. Singing and acting, like the fine dexterity of the juggler with his cup and balls, require a shaping of the organs toward a finer and finer certainty of effect. Your muscles, your whole frame must

go like a watch — true, true, true to a hair. This is the work of the springtime of life before the habits have been formed.

And the same thing that is true of music and acting is true in every other field. "Practice makes perfect" and that alone. The ball pitcher may know the theory of his art, but still he can attain to mastery only by pitching one ball after another until his arm has come to work as a precise and delicate machine. The star drop-kicker who, amid the wild applause of his supporters, kicks, at the critical time, the goal that wins the game, does so only because day after day he has been practicing this one thing until the nerves and muscles of his leg have become adjusted, with infinite nicety, for the distribution and utilization of the energy sent to them. He needs only to resolve to kick the ball and the gradually perfected mechanism of his body carries out the resolution. And so it is with the driving of nails, the sewing of garments, the sending of telegraphic messages. These things are awkward at first, but with practice come at length, as definite, clear-cut pathways are ground out for the neural impulses which condition them, almost to run themselves off. So it is, too, with the more intellectual habits — using good English, thinking logically, considering for oneself rather than relying upon authority. So it is, too, even with the moral and religious habits — the habits of persistence, of honesty, of obeying the voice of conscience, of being reverent, and a hundred others. These can sit naturally and easily upon us only after long continued and uninterrupted practice. They can not come by being worked on Sundays and allowed to rust the remainder of the week.

In our chapter on Memory we saw that it is uneconomical to learn a set of facts and then, by lack of review, permit oneself to forget them. This is, we there said, like ceasing the battle just when the enemy is turning to flee from the field. A similar thing is true in habit formation. Many people enthusiastically begin a bit of training, and then leave

off before they have clinched their results. They practically form the habit and then, with a premature feeling that they have won their point, allow it to lapse through cessation of attention and practice. They stop at what Professor Bagley calls "the half-way house," and lose, in consequence, all the energy that they have put into the training. When one has carried achievement so far that he is within sight of his goal, it is surely uneconomical not to add the little extra energy necessary to clinch it. Indeed, there is no greater moral danger than this premature confidence of victory, with the slacking of guard which goes with it. It is through these weakened defenses in what are naturally strong entrenchments that the wily enemy, still lurking in the neighborhood, steals into the city and captures it.

Focalization. — But for habit *formation* the second element — focalized attention — is equally important. After a habit has once been formed it can be maintained by repetition alone without attention — and indeed it is in this very possibility that the economy of habit lies. But while the habit is in the making the case is very different. Suppose, for example, that you are learning to write, and that your specific task is the making of the letter M. First you look at your model. Then with a guiding idea of what your motion is to be, you proceed to execute it. In part you succeed, and these successes affect you so pleasurably that you fasten on to them. But in part you fail. You have, say, got the three curves in, but you do not have them high enough. Again you try, this time preserving the three peaks but aiming to make them higher. After a few trials they are correct in this respect, but still too broad. Then you give your attention to the breadth until that is corrected. And so, for the purpose of our illustration, we may conceive your going on correcting one imperfection after another until you have reached a motor adjustment perfectly *matching* your idea. Your process here demands, of course,

repeated trials — practice, repetition — but it also demands persistent attention. As long as you fasten each time on some specific aspect which you attempt to correct so long you make progress; as soon as you let this attention lag you do not improve, no matter how many times you repeat. Indeed, while a habit is being *formed*, repetition without attention is likely to be harmful rather than helpful, because it tends to fix the response at an imperfect stage. When, however, the response has reached a satisfactory stage of perfection it is then time to grind the pathways which physiologically condition it so deeply into the nervous system, by practice in just that form, that the neural impulse can follow them without let or hindrance, and with little possibility of breaking over into some other channel, just as the carpenter, when he has his timbers at last properly set, hastens to securely nail them fast.¹

Do you wish to improve your carriage, or your language, or your gestures, or other personal mannerisms? Then practice what you would be under the stress of active attention. Is your baseball batting, your basketball goal throwing, or your football tackling still defective? Do not hope to improve them by practice unless, on each repetition, you have in mind some definite defect which you wish to eliminate. Does your penmanship, or your literary style, or your manner of debating need improvement? Then in every detail of your repetition of these acts strive after some specific result which you foresee would correct the particular defect. Without your practice being attended by such strenuous attention, directed toward specific ends, you can accomplish little or nothing by way of improvement.

Habits out of instincts. — Eternal vigilance is, then, the price of victory. A well-formed habit can be drilled into

¹ Hence a teacher, in training the child in such habit as writing, for example, should point out *specific* improvements to be made, not commend or condemn in general.

the system only as the result of persistent effort. It must, however, be admitted that habits are much more easily established at certain periods of life than at others. There are times when one's nature is ripe for a particular habit, and then it is easily formed; there are other times when it is not ripe, and at such times the task is extremely difficult. In fact, it is nature that provides the stuff out of which we build our habits, and this stuff is, to a large extent, our instincts. You already know, from our chapter on "Keeping Open-minded Toward Progress," what our instincts are. They are certain tendencies toward specific adjustments which we inherit ready-made from our ancestors — as the tendency to walk, to eat, to love, to get angry, to strike our opponent, etc. Now it is these instincts that furnish the original impulses which, when allowed to function, start us on our habits. Take, for example, the habit of walking erect. Instinct has given us a certain pride which expresses itself in the assuming of an erect, expansive posture. Upon this prompting of nature we may then seize — because such posture is reassuring and therefore pleasurable to us, because we see that it gives us prestige, or because someone has praised us for it — and volitionally reënforce it. Thus by putting into play and in this way deepening the pathways that nature herself gave us as a heritage — for instinct is due to pathways that have been inherited rather than newly made — we may be very readily able to form the habit of walking erect. Just so also with such a habit as that of saving. Instinct prompts us to accumulate property — to get and keep as much as we can. And this instinct we may seize upon and develop into a habit of saving. Indeed there is perhaps no habit that does not thus have, as its starting point, instinct elements, though it may, of course, have other elements as well.

Transitoriness of instincts. — But an extremely important fact for the pedagogy of habit formation is that these instincts

re transitory.¹ They ripen and then, if unused, decay. If, on the contrary, they are allowed to express themselves when they come to their tide, they remain as habits. Mr. Spaulding experimented with young chicks and found that they had, from the first, a strong tendency to follow, during the first few days, the instinct of sociability, and would follow — and continue long afterwards to follow — any moving object that was most prominent in their environment, which nature had, of course, intended to be the hen. But when the chicks were kept hooded during the first few days, so that this instinct of sociability had no opportunity to function, it passed away, and when unhooded later the chicks manifested the greatest repugnance to moving objects, instead of attraction to them. The instinct, then, was easily fixed in the form of a habit if allowed to express itself when it was ripe; but if not allowed to do so, very soon passed away. Calves born in domestication are very tame; but it is said that, if they are born out in the mountains and not discovered for some days, they are wild as deer. That is because by this time the earlier instinct has, because unused, decayed, and the instinct of fear has ripened.

Nor is this true only of the earliest days of life nor only of the lower animals. It is a general law that instincts tend to assert themselves most strongly — or even at all — only at certain periods of physical development. And if they are to be used as the starting point in habit formation it is clear that they must be used at the opportune moment. Here Shakespeare's often quoted statement is eminently true:

There is a tide in the affairs of men
Which taken at the flood leads on to fortune;
Omitted, all the voyage of their life
Is bound in shallows and in miseries.

¹ Psychologists are lately emphasizing the transitoriness of instincts less than formerly.

Form habits at critical time. — Professor James has put this fact, and its practical application, most forcefully :

Leaving lower animals aside, and turning to human instincts, we see the law of transiency corroborated on the widest scale by the alternation of different interests and passions as human life goes on. With the child life is all play and fairy tales and learning the external properties of "things"; with the youth it is bodily exercises of a more systematic sort, novels of the real world, boon-fellowship and song, friendship and love, nature, travel, and adventure, science and philosophy; with the man ambition and policy, acquisitiveness, responsibility to others, and the selfish zest of the battle of life. If a boy grows up alone at the age of games and sports and learns neither to play ball, nor row, nor sail, nor ride, nor skate, nor fish, nor shoot, probably he will be sedentary to the end of his days; and, though the best of opportunities be afforded him for learning these things later, it is a hundred to one but that he will pass them by and shrink back from the effort of taking those necessary first steps the prospect of which, at an earlier age, would have filled him with eager delight. The sexual passion expires after a protracted reign; but it is well known that its peculiar manifestations in a given individual depend almost entirely on the habits he may form during the early period of its activity. Exposure to bad company then makes him a loose liver all his days; chastity kept at first makes the same easy later on. In all pedagogy the great thing is to strike the iron while hot, and to seize the wave of the pupil's interest in each successive subject before its ebb has come, so that knowledge may be got and a habit of skill acquired — a headway of interest, in short, secured, on which afterwards the individual may float. There is a happy moment for fixing skill in drawing, for making boys collectors in natural history, and presently dissectors and botanists; then for initiating them into the harmonies of mechanics and the wonders of physical and chemical law. Later introspective psychology and metaphysical and religious mysteries take their turn; and last of all the drama of human affairs and worldly wisdom in the widest sense of the term. In each of us a saturation point is soon reached in all these things; the impetus of our purely intellectual zeal expires, and unless the topic be one associated with some urgent personal need that keeps our wits constantly whetted about it, we settle into an equilibrium, and live on what we learned when our interests were fresh and instinctive, without adding to the store. Outside of their own

business the ideas gained by men before they are twenty-five are practically the only ideas they shall have in their lives. They *cannot* get anything new. Disinterested curiosity is passed, the mental grooves and channels set, the power of assimilation gone. . . . To detect the moment of instinctive readiness for the subject is, then, the first duty of every educator. As for the pupils, it would probably lead to a more earnest temper on the part of college students if they had less belief in their unlimited future intellectual potentialities, and could be brought to realize that whatever Physics, and Political Economy, and Philosophy they are now acquiring are for better or worse, the Physics, and Political Economy, and Philosophy that will have to serve them to the end.

The life of the great scientist, Charles Darwin, contains a sad story of failure to take account of this law of transitoriness of instincts. He says:

Up to the age of thirty or beyond it, poetry of many kinds gave me great pleasure; and even as a schoolboy I took intense delight in Shakespeare, especially in the historical plays. I have also said that pictures formerly gave me considerable, and music very great, delight. But now, after many years, I can not endure to read a line of poetry.

The eminent scientist had postponed cultivation of his æsthetic nature hoping to attend to it after his scientific work had been done, but found to his sorrow that the muses would not wait. Such story could be paralleled in many a life. One is half resolved to begin some important reform in his life — perhaps to affiliate himself with the church — but he says: "Not now. Next year I will do it." But when next year comes it finds him cold. He may abstractly wish to take the step, but he lacks the warm impulses necessary to give substance to his wish. He has trifled away his opportunity.

Repress instincts at critical time. — The converse side of this matter is also brought out in the quotation from James above. We have been showing that if you wish to utilize an instinct to build a habit, you should take it at its flood. On the other

side, it is equally true that if you wish to prevent an instinct from fastening itself upon you as a habit, the battle which you wage against it need not be long. Sternly refuse to allow the instinct to express itself, and it will take the hint and leave you. You see now how very wrong is a certain school of psychologists who claim that one should "sow his wild oats" and get them out of his system. When, they say, the instinct to fight, or to be cruel to animals, or to be defiant of authority, or to lie, or to be loose in morals, develops, let it have its way and be over with. Otherwise, they claim, it will fester within and break out abnormally later. But from what was said above it is clear that nature does not work that way. Instincts that are allowed to express themselves do not soon get enough of it and pass away. Instead they fasten themselves upon us as permanent habits. The more they get the more they want. On the other hand, if checked they do not fester within and break out afterwards. Instead they pass permanently away or, at least, are permanently weakened by reason of the inhibition. If, then, you wish to establish yourself on the level of development which these instincts were worked out to serve — the animal or savage level — you may let them all, as they present themselves, have their fling; but if you wish to fight your way to a higher level — the level of enlightened man — it is your business to eliminate from your life, by timely suppression, those tendencies not congruent with civilization.

In *Tom Brown at Oxford*, Hughes says:

In all the wide range of accepted British maxims, there is none, take it for all in all, more thoroughly abominable than this one as to the sowing of wild oats. Look at it on what side you will, and you can make nothing but a devil's maxim of it. What a man — be he young, old, or middle-aged — sows, *that*, and nothing else, shall he reap. The one only thing to do with wild oats is to put them carefully into the hottest part of the fire, and get them burnt to dust, every seed of them. If you sow them, no matter in what ground, up they will come, with

long, tough roots, like couch-grass, and luxuriant stalks and leaves, as sure as there is a sun in heaven — a crop which it turns one's heart cold to think of. The devil, whose special crop they are, will see that they thrive, and you, and nobody else, will have to reap them; and no common reaping will get them out of the soil, which must be dug down deep again and again. Well for you if with all your care you can make the ground sweet again by your dying day.

Good habits must be fought for. — I am now ready to answer a question which may have arisen a while ago in your minds. Are habits always built up with effort? *Must* we give attention in their formation? Are there not many habits into which we drift merely because we do *not* think? And the answer is that there are habits into which we drift, but they are those which represent a lower biological level. They are only instincts, which we share with the savages or even with the lower animals, fixed as habits through their being permitted to function a sufficient number of times. They do not require the effort demanded for the breaking of new pathways, as do the kind of habits spoken of above, but rest in pathways implanted in our nervous systems at birth which only need a little cleaning out. These are such habits as slovenliness of dress and of speech, the use of narcotics, selfishness, laziness, and intellectual drifting. But these habits into which we can drift carry us down in the biological scale to the level of the brute. As Shakespeare says, "To ebb hereditary sloth instructs me," but up to the level of a man it is necessary for us to fight our way.

James' maxims on habit formation. — James' famous chapter on Habit contains some practical maxims on habit formation, based on the work of Professor Bain, which have become classic. They are these:

First . . . we must take care to launch ourselves with as strong and decided an initiative as possible. Accumulate all the possible circumstances which shall reënforce the right motives,

put yourself assiduously in a condition that encourages the new way; make engagements incompatible with the old; take a public pledge, if the case allows; in short, envelop your resolution with every aid you know. This will give your new beginning such a momentum that the temptation to break down will not occur as soon as it otherwise might; and every day during which a breakdown is postponed adds to the chances of its not occurring at all.

The second maxim is: Never suffer an exception to occur till the new habit is securely rooted in your life. Each lapse is like the letting fall of a ball of string which one is carefully winding up; a single slip undoes more than a great many turns will wind again. Continuity of training is the great means of making the nervous system act infallibly right. . . .

The question of tapering off, in abandoning such habits as drink and opium indulgence comes in here, and is a question about which experts differ within certain limits, and in regard to what may be best for an individual case. In the main, however, all expert opinion would agree that abrupt acquisition of the new habit is the best way, if there be a real possibility of carrying it out. We must be careful not to give the will so stiff a task as to insure its defeat at the very outset; but, provided one can stand it, a sharp period of suffering, and then a free time, is the best thing to aim at, whether in giving up a habit like that of opium, or in simply changing one's hours of rising or of work. It is surprising how soon a desire will die of inanition if it be never fed. . . .

A third maxim may be added to the preceding pair: Seize the very first possible opportunity to act on every resolution you make, and on every emotional prompting you may experience in the direction of the habits you aspire to gain. It is not in the moment of their forming, but in the moment of their producing motor effects, that resolves and aspirations communicate the new "set" to the brain.

No matter how full a reservoir of maxims one may possess, and no matter how good one's sentiments may be, if one have not taken advantage of every concrete opportunity to act, one's character may remain entirely unaffected for the better. With mere good intentions, hell is proverbially paved. And this is an obvious consequence of the principles we have laid down. A character, as J. S. Mill says, "is a completely fashioned will"; and a will, in the sense in which he means it, is an aggregate of tendencies to act in a firm and prompt and definite way upon all the principal emergencies of life. A tendency to act only becomes effectively in-

grained in us in proportion to the uninterrupted frequency with which the actions actually occur, and the brain "grows" to their use. When a resolve or a fine glow of feeling is allowed to evaporate without bearing practical fruit it is worse than a chance lost; it works so as positively to hinder future resolutions and emotions from taking the normal path of discharge. . . .

[Fourth] Keep the faculty of effort alive in you by a little gratuitous exercise every day. That is, be systematically ascetic or heroic in little unnecessary points, do every day or two something for no other reason than that you would rather not do it, so that when the hour of dire need draws nigh, it may find you not unnerved and untrained to stand the test. Asceticism of this sort is like the insurance which a man pays on his house and goods. The tax does him no good at the time, and possibly may never bring him a return. But if the fire does come, his having paid it will be his salvation from ruin. So with the man who has daily inured himself to habits of concentrated attention, energetic volition, and self-denial in unnecessary things. He will stand like a tower when everything rocks around him, and when his softer fellow-mortals are winnowed like chaff in the blast.

Breaking habits. — Focalization. — And the very same laws that apply to habit formation apply also to the breaking of undesirable habits. First you must focus attention upon the objectionable phase of your conduct. Without such attention your wish may be good enough, but your act will not follow your wish. When you come to think of the matter you will find that you have been, without knowing it, practicing your old habit. And the only way to avoid thus drifting on, is to watch yourself attentively while breaking up the habit.

No exception. — And then be doubly sure that you give the old enemy no chance to express itself, for, if you do, one such expression will open up again the old pathways. I lived once in a section of the country where the river frequently washed out the railroad bed. And I learned then that a series of washouts were likely to come together. This was because the repairs of the first left the bed rather loose,

and the slightest flood could wash it out again. But if the bed could withstand the strain until its elements had settled firmly together, it could then stand securely against the flood, and soon turn it into safer channels. And so it is in the breaking up of a habit. At first the old pathways are but insecurely blocked and highly susceptible to a "washout." But the longer the old habit is inhibited the firmer becomes their resistance to the intrusion of the old currents. So in habit breaking, permit, especially in the early stages, no exception.

Substitution.—And finally meet the problem by substitution rather than by direct onslaught. It is hard to maintain a vacuum. The empty mind is the devil's workshop. As Professor Angell says: "Give yourself surroundings which will offer the least possible temptation. Do not try to merely suppress the bad habit. If possible, put something else which is good in place of it. See to it that you are always occupied in some proper way until you feel sure that the grip of the bad habit is loosened."

"How shall I a habit break?"

As you did that habit make.

As you gathered you must lose;

As you yielded, now refuse,

Thread by thread the strands we twist

Till they bind us, neck and wrist;

Thread by thread the patient hand

Must untwine, ere free we stand.

As we builded, stone by stone,

We must toil, unhelped, alone,

Till the wall is overthrown.

But remember, as we try,

Lighter every test goes by;

Wading in, the stream grows deep

Toward the center's downward sweep;

Backward turn, each step ashore

Shallower is than that before.

Ah, the precious years we waste
Leveling what we raised in haste;
Doing what must be undone
Ere content or love be won.
First across the gulf we cast
Kite-borne threads, till lines are passed,
And habit builds the bridge at last!

— JOHN BOYLE O'REILLY.

EXERCISES

1. Just what is the similarity in physical structure between habit and the retention of traces of past states in plants or inanimate physical objects?

2. How does the principle of economy through habit apply to a student's making and following a definite study schedule?

3. Is it easier to hold yourself to moderation in such matters as whispering in the study hall, or to repress the tendency entirely? How is it with temptations to major social vices? Discuss the dangers of the policy of moderation.

4. Make a list of some objectionable mannerisms which you have observed, and tell how they could be overcome. Have you examined your own conduct for objectionable mannerisms?

5. Describe the process by which one learns to write on the typewriter, and the mechanism of the finished habit.

6. Cite examples of the fact that one may slip into bad habits gradually and without realizing it.

7. Rousseau says: "The only habit a child should be allowed to form is to contract no habits whatever." Is that good advice? Why?

8. Give examples, from your observation, of half-formed habits which were lost because they were not practiced sufficiently long to finally clinch them. Is it true that the time put into forming them was wasted? Worse than wasted?

9. Why is practice worth so much more if carried on under the stimulus of intense interest than if carried on indifferently? What is the effect of continuing to practice after you have become so tired, or so indifferent, that you make many errors?

10. A certain Austrian, undertaking to break his habit of loafing at a tempting wine-shop, advertised in the newspaper that he would pay fifty gulden to any one who found him in the wine-shop in question. To what psychological principle was he conforming?

CHAPTER XVIII

CHARACTER AND WILL

Character grounded in habit. — "Sow a thought and reap an act; sow an act and reap a habit; sow a habit and reap a character; sow a character and reap a destiny."

In our chapter on Suggestion we saw how surely an implanted thought will lead to an act. In the last chapter we found that an act repeated will form a habit. We have now to see that habit come to fruition is character.

Character is often spoken of as if it were some mysterious entity that nature has bestowed upon her favored sons, or that has come in some unexplainable way in recognition of vague, general merit. It is not anything of the sort. There is nothing more definite in its make-up than character. It consists in "an organized set of habits of reaction" and only in this. A man's character rests in his habit of promptness, of industry, of keeping his word, of doing his work systematically, of making few resolutions but putting these into action; in his habitual manner of thinking, of planning, and of executing; in his mode of walking and talking; in his practice of conforming or not conforming to social conventions. And these, clearly, are no sugar plums distributed by the gods. They are all factors which have had to be built up and organized into a whole by long practice. How and why this is, our last chapter has clearly shown us. Habits must be developed through a continuous process, and so — since it consists of habits — must character. We can not wish ourselves to perfection, nor go there with seven-leagued boots, in the latter case any more than in the former.

We must win our way to character. "What we do upon some great occasion," says H. P. Liddon, "will probably depend upon what we are; and what we are will be the result of previous years of self discipline."

Character result of continuous growth. — One often expects that when he moves into a new town, or takes a new position, or enters college, or joins a church, he will be somehow a different person, and his old fears and weaknesses and temptations will not follow him. But he soon finds out, to his chagrin, that character is not made nor unmade by crossing boundary lines. He may, under the artificial stimulus, be able to maintain a different front for a little while, but soon his old self will inevitably poke itself to the fore. There is no such thing as a sudden transition in character. Externally one may seem to change, but the change is only superficial. Psychologists have, of course, found that there are in most lives periods of sudden change of level in one's conscious attitude toward life — crises called conversion in religion, but occurring in Philosophy, in Science, in literary appreciation, and even in athletic ability as well — but these sudden conversions represent only a shaking of our external life into a new equilibrium upon that level to which our silent inner growth has long been carrying us. Or if these cataclysms lift us, as they sometimes do, to a level for which our inner growth has not yet prepared us, we must build up around them afterwards their necessary substantial foundation before we are secure. What we become we must earn, either before or after "conversion," and the external change is but our credentials testifying to our continuous inner growth. Many a sad relapse has come because men, ignorant of this fact, prematurely believed themselves to be saved when they were only embarking upon the pursuit of salvation.

It is, then, only step by step that character is won. Says Josiah G. Holland,

We rise by the things that are under our feet;
By what we have mastered of good and gain;
By pride deposed and the passion slain,
And the vanquished ills that we hourly meet.

Wings for the angels, but feet for men!
We may borrow the wings to find the way —
We may hope, and resolve, and aspire, and pray;
But our feet must rise or we fall again.

Only in dreams is a ladder thrown
From the weary earth to the sapphire walls;
But the dreams depart, and the vision falls,
And the sleeper wakes on his pillow of stone.

Heaven is not reached by a single bound;
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to its summit round by round.

Long preparation for responsibility. — On this, John Todd says :

Patient labor and investigation are not only essential to success in study, but are an unfailing guarantee to success. The young man is in danger of feeling that he will strike out something new. His spirits are buoyant and his hopes sanguine. He knows not the mortified feeling of being repeatedly defeated by himself. He will burst upon the world at once, and strike the blows of a giant, while his arm is that of a child. He is not to toil up the hill and wait for years of self-discipline, close, patient study, and hard labor — not he; but before you know it, he will be on the heights of the highest Alps, with a lofty feeling, looking down upon the creepers below.

Thus multitudes waste life, and absolutely fritter away their existence, in doing nothing except waiting for a golden opportunity to do something great and magnificent. Did not Patrick Henry burst upon the world at once, and at once exhibit the strength of a giant? If he did, he is no specimen of ordinary minds, and no man has a right to presume upon anything more than an intellect of ordinary dimensions as his own. What multitudes of men lie still, and never lift the pen, because the time is not come! When they come out, it must be in a "great book," a splendid address,

or some great effort. The tree must not be allowed to grow by inches; no, at once the sapling must be loaded with the fruit of the tree of threescore years. Alas! trees planted and watered by such expectations will never be more than dwarfs. Franklin rose high, and his name is engraved deep and fair on the roll of immortality; but he began his greatness by making an almanac: he continued to make it for years, and rose, step by step, till he was acknowledged at the head of modern philosophers.

Every young man ought to remember that he who would carry the ox must every day shoulder the calf.

Consistency of character. — Character, then, is a balance wheel in one's life. One's act at any given time is not the product of the moment's caprice, nor of accident. What he does is rather an expression of what he is. He is carried on in his conduct by some such previously gathered momentum as that which holds the flying stone in its course. In consequence you can predict his acts with almost as much certainty as you can calculate in advance, from the laws exemplified in its flight and deduced from its already traversed path, where the moving stone will be at a given instant. His reaction to specific classes of things he has long ago determined upon, so that now, when he meets them, he automatically disposes of them as soon as he recognizes their class. Over the taking of apples or the "swiping" of pennants, for example, he hesitates only until he has classified the act as stealing, and then forthwith takes such attitude toward it as his past has prepared him to take.

About the well-developed character there are, indeed, few surprises. And where one with such character is found to do something unexpected his friends immediately conclude that either they were not rightly acquainted with the circumstances or did not fully know him. And if second consideration shows the circumstances to be such as they had understood, they at once begin to look into his past for precedents for the strange bit of conduct, and prepare themselves to recast their concept of his character in consequence.

They are rightly sure that his deed is not an accident, but one that flowed from his character, and that might have been foreseen had that character been correctly known.

And that is the more true because, while one's character is grounded in the sum of his habits, it is not made up of a mere aggregate of disconnected habits. These have been worked together into a more or less consistent unity. The teacher, for example, tends not to permit habits incongruent with his profession to function. When he is tempted to smoke or to loaf, or to use incorrect English, or to tell smutty stories, the recollection of his professional responsibilities comes to him and checks these acts. When, on the other hand, the dispositions favorable to his profession present themselves this same recollection reënforces them. Similarly the banker will inhibit these habits that indicate levity, absence of sound judgment, and lack of integrity, and will reënforce those which tend to establish public confidence in him. Thus in general one's plans and ideals hover over him and act as tutor to his habits. His whole character stands watch and demands the credentials of his separate habits as they present themselves, and admits to favor only those in harmony with that system until his life has come to be built up around that ideal which he has chosen for himself. Marden remarks :

It is said that if you invite one of the devil's children to your home the whole family will follow. So one bad habit seems to have a relationship with all the others. For instance, the one habit of negligence, slothfulness, makes it easier to form others equally bad, until the entire character is honeycombed by the invasion of a family of bad habits.

Of course the same thing is true of good habits.

Differences in degree of unification of character. — But unfortunately this unification of character is unequally realized by different individuals. There are persons whose lives are so developed and balanced as to make them irre-

sistible moral forces wherever they are. There are others whose lives are so scattered and superficial as almost to justify us in saying what Pope once said of women — they “have no characters at all.” For one reason or another almost any idea which comes into their minds shoots out into action. The specific responses are not obliged to square themselves with the whole of the person’s character before being allowed to express themselves. That great American Psychologist, so often quoted in these pages, distinguishes, on this basis, three kinds of will.

The explosive will. — The first is the Explosive Will. Here there is almost no inhibition. When an idea presents itself there is nothing to prevent its running right out into the act to which it points — for you remember from one of our earlier chapters that every idea naturally tends to shoot out into motor results, and will do so unless it is blocked by opposing ideas. But in this explosive type the motor effect follows so quickly, or perhaps the inhibiting ideas are so slow in coming, that the deed is performed before it can be stopped. The cutting words are spoken, the too liberal promise is made, the drink is taken, the unworthy offer is accepted, and then regretted afterwards when one has had time to think. Or if, at the time, one thinks at all, the counter side gets so unsympathetic a hearing that its claim seems weak in comparison. What this sort of person needs is such an ever-present sense of what he means to be as will, on these critical occasions, swing up before him and check the impulse until he can decide whether or not it is consistent with that ideal.

The obstructed will. — The diametrically opposite kind is the Obstructed Will. Here one goes on deliberating upon a matter long after it should have been decided. Impulses and counter impulses see-saw up and down in his mind. Even when he seems to have reached a conclusion he finds it difficult to carry it into practice, for the moment

he attempts to do so a vague feeling that he may regret his decision comes up and blocks his course. Such a person is too much "sicklied over with the pale cast of thought" to do anything vigorously. The principle that such person needs to recognize and act upon is that no decision is of itself a kind of decision — and nearly always a bad one — that a relatively poor decision is better than none, that after pros and cons have been balanced against each other for a reasonable period it is time for those on the apparently lighter side of the balance to be summarily and permanently dismissed. Every choice must necessarily involve some loss, and that fact might as well be recognized and the alternative that seems less valuable heroically banished from mind. Of course as soon as the one alternative is put away, the other, now unblocked, will issue into conduct.

The normal will. — And between the two extremes stands the Normal Will. The person who possesses this has many situations already thought out and labeled, so that they are hastily decided as soon as they present themselves. For many other situations he surveys the pros and cons rapidly, finds one side decidedly more advantageous than the other, and quickly chooses it. A few situations he finds so involved that he needs to balance for hours, or even days, their relative claims before he makes choice. But he keeps ideas inhibited by counter ideas long enough, and only long enough, in each case to make a rational choice between them. The weaker he then once for all dismisses, and allows the stronger to possess the scene and to follow their normal course into action. The struggle is evidently a struggle for possession of attention. The idea that dominates in attention is the one that will have the right of way to action. In consequence the problem here involved is that of holding alternatives before the attention the proper length of time and then fixing and keeping the attention upon the better one. Such *direction of attention* itself constitutes the choice so that, as

James says, "to think, to sustain a presentation, is the only moral act."

But to the extent to which one is normal it is his whole character that projects itself through his attention and into his acts. We have a tremendous impulse to attend in those lines toward which our characters turn us. Our deliberation consists in nothing else than weighing against each other conflicting impulses from the standpoint of the relative appropriateness of each to the kind of persons we intend to be. And when we choose one or the other it is always because at the moment it seems to us more befitting the character which we boast as ours. It is this character that projects itself into our conduct and stamps an image of ourselves into every detail of our acts.

Question of freedom. — But are we not, then, free? Can we not choose to do either deed A or B? Must we be borne into either one or the other of these by the momentum of our past in spite of our present wish? This is, I confess, a big question that has engaged the attention of philosophers for more than twenty centuries, and upon which they are not even yet agreed. We can not, of course, presume to answer it finally, but our study so far has prepared us for at least a provisional, practical attitude toward the matter, and one that would be supported by at least one of the leading schools of philosophers of the present.

Environment as limitation. — *Influence of circumstances.* — Two big factors stand out as limitations to our freedom — environment as an external one, and character, as indicated above, as an internal one. There is no doubt that environment helps mightily to determine the course of our lives. Great general as Napoleon was he could not have stirred France, and later the civilized world, as he did had he not come upon the scene at a time when the writings of Rousseau and others had prepared men for a violent social and political revolution. Had Edison lived a century ago his inven-

tions would have been impossible. Had King Philip not threatened Greece, Demosthenes would not have been a great orator. A casual suggestion, a chance business or professional opening, one's presence at a critical place in the nick of time, has given a turn to many a life which re-made the man's whole future. On the other hand, many a one has been wrecked by a combination of circumstances over which he had no control. The occasion, it has often been remarked, brings forth men to meet it. The kind of books written, the nature of the inventions produced, the style of oratory, the kind of genius that wins laurels, and a thousand other aspects of life are shaped very largely by the conditions of the time and place.

Impotence of circumstances. — But, after all, circumstances, as merely external forces, are impotent. They can influence a man only in so far as he has a certain affinity for them. If they modify his life, it is because he from within chooses a kind of conduct relative to them, not because they as such drive him. For did we not learn in our very first chapter that nothing can force itself upon one merely from without, and have we not found that fact illustrated in one application of psychology after another all through our course? Did we not learn that we must *apperceive* our facts, not merely take them in as they are? Did we not see that the meaning of a situation is one that the onlooker fits onto it, and that for this reason different persons understand it differently? Did we not hear that interest must lead the mind out to a fact before that fact can hope to get a hearing? Did we not discover that problems are solved not by the solution thrusting itself upon the mind, but by the mind reaching out and trying on it its own hypotheses? Did we not see that we imitate chiefly such models, and are open mostly to such suggestions, as are attuned to what we already are within? Did we not learn in our recent chapter that not only voluntary but also spontaneous and

even involuntary attention are controlled from within rather than from without, and that this last differs from the first only in the fact that it is given in response to our deeply set biological needs — of which instinct takes care — while the first represents an effort to satisfy our conscious needs? Indeed, our whole study has been pointing to the fact that man, as a conscious self, is the center of his known world, and that its elements revolve around and subordinate themselves to him rather than that they, as physical causes, determine him. Out of this impersonal world about him he takes what he chooses — what his whole inner life has prepared him to choose — and builds it together into his own personal world.

And so when we are tempted to say that circumstances make the man we must remember that the circumstances are always relative to him. Only those are effective to which he lends an ear, and they can have only such effects as his mode of receiving them determines. Those for which he has no inner affinity bombard him as vainly as the school-boy's pebbles rattle against the sides of the battleship. Two men may live amid exactly the same circumstances — temptations to drink, facilities for dissipation, opportunities for theft — and one falls while the other passes through not only unscathed but really untempted. Similarly one person will pass through a series of situations full of the most excellent opportunities and yet remain entirely blind to them, while a second will pick from an apparently less auspicious set of conditions opportunities enough to make a dozen big men. Says some wise one,

All the forces of evil may come upon a soul from without and fail to shake it. But the smallest evil within, that is loved and desired and continued, will accomplish what the outside attack has failed in.

Adverse circumstances as spur. — Moreover, circumstances that are injurious to one may be helpful to another. What brings defeat to the first may be the condition of victory to

the second. A sneer may discourage John, but make Peter stiffen his upper lip and plunge into the job with renewed vigor, determined to show the sneerers who is right. Lord Byron's sudden rise to greatness is said to have been due to just such spur. Indeed it has frequently been observed that soft conditions make weak men, while hard ones perversely make strong, successful men out of those whom they gave promise of crushing. There is really no other such valuable discipline as the discipline of difficulties. "Sweet," says Shakespeare in a famous passage, "are the uses of adversity." Henry Ward Beecher reminds us :

An acorn is not an oak tree when it is sprouted. It must go through long summers and fierce winters ; it has to endure all that frost and snow and side-striking winds can bring, before it is a full grown oak. These are rough teachers ; but rugged schoolmasters make rugged pupils. So a man is not a man when he is created ; he is only begun. His manhood must come with years. A man who goes through life prosperous, and comes to his grave without a wrinkle, is not half a man.

In time of war whom does the general select for some hazardous enterprise ? He looks over the men, and chooses the soldier who he knows will not flinch at danger, but will go bravely through whatever is allotted to him. He calls him that he may receive his orders ; the officer, blushing with pleasure to be thus chosen, hastens away to execute them. Difficulties are God's errands ; and, when we are sent upon them, we should esteem it a proof of God's confidence, and prize it accordingly.

Another says :

Supine, powerless souls have always fainted before hostile circumstances, and sunk beneath their opportunities ; while men of power have wrestled, with sublime vigor, against all opposing men and things, and succeeded in their noble efforts, **BECAUSE THEY WOULD NOT BE DEFEATED.**

And so environment may not claim the credit (or the discredit) for determining a man's life. It can lead him in a particular direction only provided he has within himself a certain momentum already carrying him thither. I do not

mean that the nature of one's environment will be of no consequence. One must live a concrete life, and one can do that only by reacting upon his actual environment. And the life which he chooses will be, if he is a true man, relative to the conditions with which he is surrounded, and his particular service the solution of problems which grow out of these conditions. One's life will be, then, different because circumstances are different, but only because he himself agrees that it shall be. Circumstances, that is, afford him his material, but he remains in the midst of them the architect of the destiny constructed from them.

Character as limitation. — *Inertia of character.* — Our circumstances, then, group themselves about our character. What they shall be for *us* is determined by what we are. If we lack freedom, it is not because the outside world grips us fast. If we are held at all, it is by the second and more internal factor involved — by the fact that we can not get away from ourselves. If any momentum sweeps us on, or if any inertia holds us back, it is that of our own character.

And that the inertia of our own character — whether good or bad — does hold us within narrow lines, a very little observation will show. Men do not break away suddenly from the results of years of training. If one's life has been one of honesty, it is next to impossible for him to steal. His whole nature rises in revolt against his doing it and effectively restrains him. Instead of a struggle to avoid doing some evil inconsistent with his character it would take a struggle to do the evil. And the same thing is true of the doing of good for which one's character has not prepared him. When one is confronted by the occasion which demands it he will find himself shut off from it by a wide chasm.

Character not mechanical. — But to admit that one's conduct grows out of one's character is not to give up freedom. For character is no mere push. It is no such mechanical combination of forces as that which determines the course

of a planet and makes the smallest detail of its motion predictable thousands of years in advance. Character has, of course, its basis in accomplished facts, but these facts are grouped around an element of it which is even more fundamental — that is a purposive or, as the philosophers would say, a teleological, element. "Man partly is and wholly hopes to be" and it is this hope hovering over him, as well as his already won habits, which makes up the whole of his character. And into an equilibrium around this purpose which runs through his life is thrown the system of habits in which his character is grounded. At this point he is ever growing in one direction or other, and his character as evidenced by external reactions is continually but slowly shifting so as to keep itself always focused upon this, its dynamic center. Says George Eliot,

Character is not cut in marble; it is not something solid and unalterable. It is something living and changing, and may become diseased as our bodies do.

Such recast of character under a shifted life purpose you have all frequently observed. See a man once and notice how he uses his powers, and then meet him again five or ten years later, when either the process of steady growth or some important crisis has given him a different purpose in life, and you will find many traces of the old mannerisms, the old powers, the old habits, but put to a new use. The center of his life has shifted, but the old elements of character have grouped themselves about this new point of organization as its concrete support.

Teleology in life. — But lest I seem to be talking in mysteries I shall do now as the novelists who have jumped into the middle of their story — go back to the beginning and trace up the account. That all life is teleological — that it has hovering over it a purpose to be embodied — is evidenced even in its very lowest forms. Lowell, you remember, when praising a day in June, exults

Every clod feels a stir of might,
An instinct within it that reaches and towers,
And groping blindly above it for light
Climbs to a soul, in grass and flowers.

and another New England poet imagines that

Striving to be man the worm
Mounts through all the spires of form.

And these poetic flights represent scientific truth. All animate life does stretch toward the realization of an end. Bend a piece of iron and it will remain bent, but bend a growing twig and it will gradually straighten itself out into something of its normal condition. It has a form toward which it tends in spite of any external forces which oppose its realizing that form. Dr. Paul Carus, in his study of "The Psychic Life of Micro-organisms," found that even such simple organisms as the individual cells of our bodies adjust their conduct to ends to be realized, rather than solely to mechanical forces. And that this is true of forms large enough to be observed by the naked eye we all have seen. Hold a piece of glass between a fly and a bit of food and the fly will find its way around the glass, it being drawn on by the ideal of getting the food. A bit of shot, on the other hand, impelled only by mechanical forces, would stop dead at the glass. The distinguishing feature of all conscious life is, then, adjustment to ends; that of inanimate life, impulsion by mechanical force. To be sure all animate creatures realize their ends by making use of a mechanism which their physical inheritance and their past reactions have developed, but in every adjustment this mechanism is grouped around the purpose to be realized — and hence partly drawn on from in front, not merely pushed from behind.

And this teleological feature becomes more pronounced as we go upward in the scale of animal life. In so far as a

creature has relatively little of it, but is largely controlled by mechanical reactions; it is regarded as a low form of life; in so far as it has much, and is consequently resourceful in its meeting of the problems of existence, it stands high. A creature is a self in just so far as a conscious purpose runs through its life; it is a mere thing in just so far as its life is not grouped about such conscious purpose. To be sure one does not necessarily have much of this aggressive purposiveness merely because he is a human being, for many "featherless bipeds" drift on the same level of instinct upon which the higher animals live. But such members of the *genus homo* are, in so far, not selves in spite of their hairless and featherless foreheads.

Life focused in purpose. — Every life then rises as a tidal wave out of an ocean of instinctive and habitual reactions. These latter make it substance, but the structure into which they shall form themselves is determined by the attractive force which raises them above their dead, mechanical level. To change the metaphor, our lives are *trailing* in the world of mechanical laws, and hence have their basis in the physical mechanism organized into habits and instincts, but they open out into the realm of divine light — of pure purpose — and, in so far as we are selves, it is toward this junction of our finite lives with the world of pure purpose that the trail converges.

Would you let me be so disrespectful to these spiritual realities as to attempt to hint by a diagram at what I mean? If so, the upper diagram on the following page may represent the unorganized, scattered life of one who drifts on the instinctive level, while the lower one may represent him who has pressed forward into that selfhood which is proffered to — but not always accepted by — every self as the essence of its being.

So, circumstances, as we saw, put themselves in equilibrium about that system of habitual attitudes which make

ip character, and character, in turn, now appears to group itself about purpose. The ideal which a man chooses for himself is an integral part of him. If you are to predict his conduct you must not only know what he has done, but in what direction he is headed — what his aims are. In fact his past actions are valuable only in enabling you to discover what ideal is probably hovering over him. And if, from a study of his behavior, you have not misjudged this,

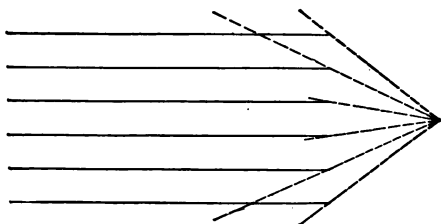


FIG. 29.

you can accurately predict what he will do, for you know his criterion of choice. He is what his purpose is, plus what his conduct has been.

Freedom in power to choose ideal. — One's freedom, then, lies not so much in his power to choose what detailed acts he shall perform, as to choose what sort of person he intends to be. As for his acts, given this ideal, and given his past conduct, they follow almost automatically from the combination. He does not so much will to perform this or that particular deed as, holding before him what sort of self he means to be, judges that, in this particular situation, such and such specific actions are congruent or incongruent with that self. And as soon as their congruence is established they are handed over, as dominating ideas always are, to that bundle of habitual tendencies which make up his character, to be

mechanically run off. Indeed many of his problems are not even brought to the level of conscious deliberation for adjustment, but he intuitively feels the inconsistency with his ideals of the act to which he is tempted, and he merely replies, as Evangeline when coaxed to take a second lover, "I can not." It is this irresistible way in which conduct seems to spring out of character that has led many philosophers to deny that man is free to choose his own course.

But as for that dominant choice of his — his *eternal* choice as a philosopher might say — as for that all-pervading ideal that continually hangs over him — as for that plan of life which he has chosen for himself — that is ruled by no mechanical law. To accept it, and having accepted it to press forward into the harness, is his sovereign right as a person — indeed not only his sovereign right but his very essence as a self, so that by plunging into it he comes to life as one of the sons of God, but by holding back he remains at best "the paragon of animals."

Such power the essence of free will. — But to choose this is enough, for as he presses onward into this choice his whole nature swings itself about it, and his conduct comes in its every detail to express it. The sense of what he means to be is ever with him — usually in the background where he is not explicitly conscious of it — and is running down into this appropriate act or that just as, on a lower level, the will to eat runs out automatically into the specific acts of taking up the knife, the spoon, and the glass. He is free, but not capriciously so. He has had to win a will through that slow process through which he could make a personality, the normal expression of which itself is his will. For the will is not some mysterious power lurking back in one's cranium that can be called out in emergencies to win his battles for him. It is only one's whole self, in the form in which he has slowly built it up, in action. "The whole mind active," says Angell, "this is the will. To say that there is no such

thing as the will (a statement which troubles many right-minded persons) is simply the psychologist's perverse way of saying that mentally there is nothing but will. There is no specific mental element to be called will because all states of consciousness are in their entirety the will."

In the sense, of course, that the details of his acts are the product of his character reacting upon a definite environment, they are not free — that is, not capriciously free — but in the larger sense that they are expressions of that individual life that he, by exercising the divine right of every self, has chosen to be his, they have all the freedom that any brave, heroic nature could wish — the freedom to win out along one's own lines in the long run. One's acts can not be separated from himself, and to win a free life means first of all to win a true self.

Resolve, resolve! and to be men aspire,
Exert that noblest privilege, alone
Here to mankind indulged; control desire;
Let Godlike reason, from her sovereign throne,
Speak the commanding word, "I will," and it is done.

Freedom to be won. — And so freedom is a thing to be won, not passively received. It belongs to those who are courageous and assertive enough to claim it. One of the poets holds that

Perhaps the yearning to be so
May make the soul immortal.

and a similar thing is probably true of freedom. Our belief in our freedom may be the very condition of our possessing it. Professor James used to employ in this connection the illustration of a man in a lonely mountain pass obliged to leap a wide chasm or perish. If he doubted his ability to make the leap and sat idly down he would inevitably perish. If he tried the leap but lacked confidence in his ability to make it successfully, his lack of faith would militate against

success, and probably bring his destruction. But if he went at the effort determined to succeed, and confident that he could do so, he could much more surely reach in safety the opposite bank. Faith in his success would itself help to realize it. "He only can who thinks he can." Marden says:

No one ever accomplishes anything in this world until he affirms in one way or another that he can do what he undertakes. It is almost impossible to keep a man back who has a firm faith in his mission and who believes that he can do the thing before him, that he is equal to the obstacles which confront him, that he is more than a match for his environment. The constant affirmation of ability to succeed, and of our determination to do so, carries us past difficulties, defies obstacles, laughs at misfortunes, and strengthens the power to achieve. It reinforces and buttresses the natural faculties and powers, and holds them to their tasks.

Elsewhere, in the same vein, this writer urges even persistent *audible* affirmation. Stoutly affirm to yourself, he advises, that you are what you wish to be — that you can do what you are required to do — and you will be able; and he tells of a singer who was cured of a fatal timidity by following the advice of her master to stand every day before a mirror and repeat "I, I, I," and to assure herself with the utmost confidence that she was already a great prima donna. "To think we are able," says Smiles, "is almost to be so; to determine upon attainment is frequently attainment itself. Thus earnest resolution has often seemed to have about it almost a savor of omnipotence."

This the highest type of freedom. — And in the long run this freedom which enables one gradually to build up a character projected in a definite direction is a far more effective type of freedom than caprice could ever be. For it enables one to preserve the results of years of effort and *focus* them upon one line of conduct, thus putting one in

command of a machine possessed of almost irresistible momentum. A capricious will that did not thus progressively organize its forces, but consisted of little, scattered spurts of whimsical choice, would be immeasurably less efficient. It is concentration and persistence that counts. Against these in the long run nothing can stand. "The weakest living creature," says Carlyle, "by concentrating his powers on a single object, can accomplish something; whereas the strongest, by dispersing his over many, may fail to accomplish anything. The drop, by continually falling, bores its passage through the hardest rock. The hasty torrent rushes over it with hideous uproar and leaves no trace behind." "Perpetual pushing and assurance," remarks Jeremy Collier, "put a difficulty out of countenance and make a seeming impossibility give way," and Burke adds, "The nerve that never relaxes, the eye that never blanches, the thought that never wanders — these are the masters of victory."

EXERCISES

1. Why may a novelist not have one of his characters suddenly reform?

2. Explain and justify the statement, quoted in the text, "He who would carry the ox must every day shoulder the calf."

3. If you unexpectedly found a person stealing, how would you explain his conduct? How does this show your faith in the unity of character?

4. Are the author's remedies for the two forms of abnormal will practical? If not, what remedies do you propose? What is the relation between punishment — by nature or man — and the inhibition of too impulsive conduct?

5. Is it true that we always choose such line of conduct as seems, at the moment, most befitting our character and ideals? Why, then, do we sometimes regret our act later?

6. If one can control the direction of attention he can control conduct, for conduct tends to follow attention. Can he do this? How and to what extent?

7. Find examples of men who succeeded in spite of hard circumstances. Can you explain why?

8. Show how, and to what extent, conduct *should* be influenced by circumstances.

9. Do you consider it fortunate or unfortunate that the momentum of a man's character holds him within narrow boundaries? Why?

10. Is it true that one becomes essentially a different person when he chooses some new purpose in life, as, for example, to enter the ministry, or when some new responsibility is thrust upon him, as by the death of his father, thus leaving upon him the responsibility of supporting the family? To what extent could you say that this purpose is a factor in constituting his character? Show how his past acquisitions group themselves around this new purpose.

11. Some one advises us to "Now and then be idle; sit apart and think." What place do such periods of contemplation have in the building of character? (See Payot's "Education of the Will," pages 141-207.)

12. Does confidence in one's ability to win help him to do so? Illustrate. Is it probable that faith in one's freedom may similarly help to make him free? What kind of faith must this be — an active or passive kind?

CHAPTER XIX

THE STRONG SELF — THE SOCIAL LION

cy to self-seeking. — In speaking of social self-professor James writes as follows :

not only gregarious animals, liking to be in the sight of eyes, but we have an innate propensity to get ourselves noticed favorably, by our kind. No more fiendish thing could be devised, were such a thing physically possible, than one should be turned loose in society and remain unnoticed by the members thereof. If no one turned round to enter, answered when we spoke, or minded what we said, every person we met "cut us dead," and acted as if we were doing nothing, a kind of rage and impotent despair would build up in us from which the cruelest bodily tortures would be nothing. For these would make us feel that, however bad might be our lot, we had not sunk to such a depth as to be unworthy of notice at all. . . .

It is crazy to get a visiting list which will be large, to be mentioned when any one is mentioned, "Oh, I know him well," and to be known in the street by half the people we meet. Of course flattery and friends and admiring recognition are the most delectable things. Somewhere asks his readers to confess whether they would give each of them an exquisite pleasure to be met on the steps of Pall Mall with a duke on either arm. But in default of such and envious salutations almost anything will do for some people. There is a whole race of people to-day whose passion is to have their names in the newspapers no matter under what heading, and their departures, personal paragraphs, interviews — gossip, scandal, will suit them, if nothing better is to be had. . . .

It comes about that persons of whose opinions we care nothing are nevertheless persons whose notice we woo, and that many a truly great, many a woman truly fastidious in most things will take a deal of trouble to dazzle some insignificant person whose whole personality they heartily despise.

Seeking dominance through dress. — And this perverseness is not merely a fad of the present day — one of the artificialities for which civilization is responsible. If not more pronounced it certainly is at least more obvious among primitive men, and even among the lower animals, than among enlightened men. One mode by which this effort to command attention is expressed is through dress. In clothing decoration is older than utility, at least among people who live in warm climates. Tribes have been found in which the women considered themselves amply dressed with a string of beads around their necks. Elaborate figures tattooed in the skin serve many a savage as full dress. Even those garments which are worn for utility are made of as gaudy colors as possible, and profusely decorated with beads, shells, and the teeth or claws of animals. An East Indian petty king is said to have selected as the only *essential* parts of the English evening dress the showy white shirt, the starched collar, and the silk hat, and to have presented himself, confident of proving a striking beau, attired only in these.

This delight in gaudy display extends even to the lower animals. In most cases nature has made the male attractive to the female by reason of size, strength, or decorative colors, and by the way in which he struts when courting his mate, he shows that he does not fail to appreciate the favor which nature has conferred upon him. Whether beast or man this attire attracts attention to him, inspires in those about him a certain awe, and gives him in consequence a reassuring sense of power. And his self seems to expand or contract with the degree of success with which he can thus find himself superior to others.

A similarly occasioned self-assurance all of us have at times experienced. Who does not feel more aggressive and self-sufficient when well gowned than when shabbily attired? Clad in the latest fashion one can walk gamely down the main street, and press a claim confidently and

effectively even with the most formidable citizen of the town. But take away his smart dress and you have taken away his self-confidence. Poorly clad he slinks timorously down the back alleys and speaks weakly and apologetically to even the meanest of his acquaintances. Surely clothes help to make a man, at least so far as his own sense of personal significance is concerned.

Persons who are obliged to command a prestige to which their intrinsic merits alone would not entitle them invariably seek such prestige through a display of magnificence. Thus police and army officers are decorated with highly colored stripes, brilliant buttons, tassels, etc.; preachers wear gowns, collars buttoned behind, and other imposing forms of dress; and autocratic monarchs surround themselves with gorgeous luxury. Indeed, the more insecure a government is, the more extravagantly must it bolster itself up by such awe-inspiring display. On the one hand, such show commands the reverence of the subject, and on the other hand it inspires in the autocrat a saving self-assurance.

Dominance through other forms of superiority. — But through effective decoration is only one way of nourishing a sense of superiority. Countless other ways answer equally well. It makes no difference in what one may excel. One's yearning for some mark of strength is satisfied if only he can do or be *something* better than any one else. He may be more handsome, or fleet of foot; he may be able to lift a heavier weight, or put the shot farther; he may be superior to others in conversational ability, or able to outwit his fellows in argument; he may be able to paint a better picture, or compose a better song; he may be able to dance better, or to rob other men of their sweethearts; or, in default of these, he may be able to drink more liquor, or even to be more brazenly and recklessly wicked than any one else. It makes no difference what the feat may be: it is enough to satisfy

the craving for strength that one prove himself in *some* respect a being to be taken account of.

Anything that keeps this suggestion before the mind feeds the hunger for it. Hence the enjoyment in inflicting, or even watching, torture. The cat loves to tease the mouse that is in her power, because to do so keeps the sense of her own superiority before her. The same motive explains the joy of the savage in torturing his enemy, instead of quickly killing him. So with gladiatorial shows and bull fights. Sympathetically watching the victor, the observer shares for the moment the conqueror's own joy in mastery, and thus, at second hand, feeds that craving for effective self-assertion which continually gnaws at the vitals of every living being.

Instinct to be strong legitimate. — The instinct, then, to be strong and aggressive seems to be a deeply rooted one. Man and the lower animals share it together. Each creature is self-expansive. Each attempts not only to hold his own but also to make himself a positive force in his sphere—to enlarge his place in the world. The lower animals are on the alert to make themselves more comfortable as to quarters, to get more or better food, to make themselves more clearly dominant in their own spheres. Men watch for opportunities to increase their wealth, to better their social position, to enjoy more pleasures, or in some other way to be bigger selves. A self is like an elastic ball compressed into a smaller volume than its normal, and constantly tending to expand. At any time it is only part of what it feels impelled to be. "Man partly is and wholly hopes to be," and if the lower animals do not explicitly hope they at least blindly struggle to enlarge their sphere. Up from the plants, which struggle to crowd out their competitors, through the animals, which upon admission to a new herd fight for the leadership, to men, each of whom is ambitious for the leading rôles in politics, social affairs, or industry, the craving for power, for strength, for dominance, is ever present.

Nature's approval.—Now an instinct so deeply rooted as this one to make the most of one's existence must certainly be legitimate. On every side we find for it confirmation. It is apparently a universal law that every creature must either grow or decay. There is no mere standing still. "To him that hath shall be given, and from him that hath not shall be taken away even that which he seemeth to have." The world has no place for the weakling who feels himself called upon to apologize for the room he requires to stand upon. Of such passive, retiring creatures among plants and the lower animals nature shows her disapproval by quickly eliminating them in the struggle for existence. The "fit" which she allows to survive are the active, the expansive, the aggressive. Among men, too, such noncombatants make no headway. They are classed as "sissy," "effeminate," "spineless," and they count for nothing. The men upon whom the stamp of approval is set are strong, virile, self-confident men. When in the scheme of things providence assigned a spark of divine fire to any creature as his share in life she clearly expected him to fan that spark into an effective flame, or let it die out entirely and forfeit his place to another more aggressive.

Society's approval.—It is plain, then, how much momentum backs up the red-blooded man's wish to avoid the appearance of being a milk-sop. Nobody who is worth while is willing to be a mollicoddle. One's whole nature revolts against spinelessness. And rightly so. To be worth while one must be strong. No student of ethics would counsel men to be flabby. No teacher would wish his students, and especially his boys, to be goody-goodies. If they are to be forceful and aggressive as men they must be spirited in youth. But the ethicist and the teacher alike want their wards to be *real* sports, not mock ones. The virility, the red-bloodedness, which they prize must be real virility, and not some subtle form of weakness masquerading under the name of strength.

Search for strength must be rationalized. — And this mistaking of subtle forms of weakness for strength is indeed a deception against which men and women — and especially young men and women — must be on their guard. The instincts which men have brought over from the past are of such a character as to give rise very readily to this mistake. Every one has seen persons who thought they were acting very cleverly when in reality they were merely making dunces of themselves. Probably no spectacle is more disgusting than this sort of “smartness.” And in the same way many persons imagine that they are exemplifying strength in conduct which, if they could see it in its true light, they would recognize to be extreme weakness. And the result is a no less pitiable spectacle than that which the “greenhorn” produces when he stupidly attempts to be “smart.” Both alike grow out of awkwardness — the former out of a social, and the latter out of a certain moral, awkwardness. If, then, it is legitimate to be strong and virile, as it certainly is, it is important to inquire how one can be so in the most consistent and the most effective way. The roughest lad has the stuff in him to make a truly virile man, just as the crudest rustic has the making of a cultured gentleman, but in each this stuff must be rationalized. Our quest, then, must be: Where is this strength, for which the red-blooded youth is rightly seeking, to be found?

Ostentatious dress. — Its value. — First, then, how about the method of seeking it through compelling the attention of others by spectacular dress, about which we spoke above? This represents a kind of power. Is the strength to be found in it of a really commendable kind? Well, to begin with, we must admit that at least in the lower stages of life it is. The gaudily plumed bird, or the beautifully striped tiger, is made really more successful in achievement on account of his beauty. It gives him a better chance than he otherwise would have in getting a mate, or perhaps even

in dominating other creatures, and hence fits him better to hold his own in the struggle for existence and to produce descendants like himself. Indeed, scientists nowadays explain the handsome coloration of both plants and animals in terms of the advantage which it gives the creature in the struggle for existence. The beads, the painted faces, the gaudy coats and feathers of the savage, probably helped him in the same way. Likewise the barbarian chieftain, or even the monarch or general of civilized times, whose prestige must be artificially bolstered up, gains added influence by reason of his imposing vesture. The added sense of power which wells up within each of these is indeed a true and legitimate one.

Its artificiality. — But the instinct of display which grows out of this advantage has reference essentially to pre-civilized life. The awe which can thus be inspired is of a very superficial and childish sort. It can reach the savage and the unthinking, but it only disgusts really cultured men and women. For we have come to feel that a man should stand on merit that is intrinsic, rather than on anything so external and artificial as is dress. Robert Burns well-expressed this feeling for us once when a young Edinburgh blood showed surprise at the poet's recognition of a farmer :

Why, you fantastic gomerall, it was not the great coat, the scone bonnet, and the Saunders boot hose that I spoke to, but the man that was in them; and the man, sir, for true worth, would weigh down you and me and ten more such any day.

Indeed, any person who seems to be relying upon his finery to make an impression we regard as a kind of sham, and disparagingly call him a "fop."

Violation of good taste. — Good taste has, in fact, swung to exactly the opposite of the savage love of display. We, of course, demand a proper regard for dress, but any effort to attract attention to oneself by reason of unusual clothing is regarded as in bad form. Refined men and women in-

stinctively shrink from anything which will make them spectacular. Instead of seeking clothing which will make him as conspicuous as possible, as was the delight of his brother of the forest, the cultured man feels constrained to select some modest suit that will attract as little attention to it as possible. He avoids extremes or oddity of any kind. No real gentleman, for example, would wear an evening dress-suit to a function where he had reason to believe no one else would wear one, nor would he wish to go without such if every one else were wearing them. He wishes as a gentleman to be unobtrusive in the crowd. On the whole we have come to feel that an appropriately dressed person must avoid fads, that he or she must be neatly but not ostentatiously attired, and that any effort to dazzle others by costliness or uniqueness of dress is somewhat boorish. The disposition to do so, to be sure, still continually crops out, but as the relic of a lower stage of civilization rather than as the best taste of the present.

Slovenliness in dress. — But there is also a converse fault to this. One can make oneself even more vulgarly ostentatious by dressing beneath the established standard than by dressing above it. A shabbily dressed Cynic is said, upon entering the public bath at Athens, to have left his dirty rags alongside of the splendid clothes of the handsome sport, Alcibiades. Alcibiades, emerging from the bath first, donned the meaner garment, leaving his own instead. When the Cynic saw the substitution, he scorned to wear the dashing robes that had been left. "Ah," said Alcibiades, "I see that, despite your boasted humility, you are prouder than I, for I am not ashamed to wear your clothing, but you are to wear mine."

Thus many persons take a foolish pride in being meagerly, even slovenly, dressed. They count it virile to be seen loafing on the street with the appearance of a tough. Or, if they do not go so far as that, they at least experience a certain

sense of superiority in being sublimely indifferent to such a trivial matter as neat clothing. They have what they count a healthy contempt for the dandy who keeps himself continually "spruced up." As for them they are above being proud. It is only for mamma's darling little boy to go about with a broad starched collar and a big blue necktie on. But, as a matter of fact, are not these persons, just as the Cynic above, as proud in their own way as are those who indulge in childish display in theirs? The former are boorish while the latter are foppish, but are not both traits alike savage in origin? And is the savage any less contemptible when he persists sneeringly in his filth than when he struts about with an extra feather in his hair? Do not both extremes represent a very superficial and hence abortive way of realizing that strength in conduct for which we are seeking the true expression?

Dress and station in life. — In fact, what clothing one should wear is determined by his station in life. An American millionaire, recently deceased, was accustomed to act upon the principle that "fifty cents is enough to pay for a straw hat and it should last two seasons." This attitude was regarded as so eccentric that his statement of it was quoted, at his death, in nearly every newspaper in the country. Such statement from a day laborer would have been taken as a matter of course — indeed would have seemed quite appropriate — but from a millionaire was regarded as an idiosyncrasy, and just a little boorish. A person in one station in life draws just as vulgar attention by underdressing as a person in another by overdressing. Unless some moral principle forbid, good taste demands that one conform to custom. An actress must dress for the stage as she would not elsewhere, a minister must wear his proper garb, and social events must be attended in the dress expected at them. Why all this? Simply in conformity with the principle of refinement that one avoid making

himself conspicuous. Neither by dressing above what is expected nor below it, nor by peculiarity of speech or manner, nor by protruding his person in any way too freely before the group, may the true lady or gentleman attempt to make himself or herself in any degree the lion of the occasion.

Clearly, then, elsewhere — in ways less artificial and external than is dress or manner — must that strength be sought which will make one a creature to be taken account of in the world.

EXERCISES

1. Is dissatisfaction with one's condition in life normal or abnormal? Under what conditions is such dissatisfaction fortunate, and under what conditions unfortunate?

2. How important a motive in conduct, do you find, is the desire for approbation? Is it a healthy or an unhealthy motive?

3. One often contends, regarding some bit of conduct which he is contemplating, or in which he has engaged, that he does not care what people think about it. Is that contention true? If so, on what measure of strength is he proceeding? Is this a healthy attitude?

4. To what extent is decided aggressiveness an asset to the individual, and to what extent a liability?

5. To what extent is it true that "Clothing makes the man"?

6. Is it true that refined men and women avoid extremes? But is such refinement, or is it not, a mark of strength?

7. Is a policy of cultivated extravagance the same thing as disregard of what others think? Which is indicative of the greater strength?

8. Mention some other forms of cultivated oddity besides those mentioned in the text. Discuss their meaning and propriety.

CHAPTER XX

THE STRONG SELF—SELFISHNESS

Pleasure as end. — “There is nothing better for a man than that he should eat and drink and that he should make his soul enjoy good in his labor.” Thus wrote centuries ago the author of Ecclesiastes, and thus many a time since have men concluded. The Roman poet, Lucretius, sings :

The treasure of a tranquil mind
Is all that nature pleads for, for this span,
So that between our birth and grave we gain
Some quiet pleasures, and a pause from pain.

“The end of our living is to be free from pain and fear.” Hence, counsel these philosophers of pleasure, look after your own happiness and let the world take care of itself.

It is not our business to work for crowns by saving the Greeks ; but to enjoy ourselves in good eating and drinking. What difference does it make to me how the world goes, so long as there is a quiet spot in which I may recline, a crust to eat, and a friend to talk with? I will lie back and watch the current of the world’s misery, as from a safe shelter on the shore I might watch the tempest-driven vessel, taking a mild satisfaction in the thought that it is some one else’s peril, not my own.

How about this method of making life worth while? In the search for pleasure can that strength be found for which we seek?

Value of pleasure. — To begin with we must certainly admit that pleasure has its value. Physically it is a tonic to the system. Who has not seen the eyes sparkle, the cheek redden with a healthy flush, the heart and lungs bound into vigorous action, and the whole body assume a tone of

heightened vitality in consequence of experienced joy? From the secretion of the glands to the activity of the mind, the whole physical make-up of a man is stimulated and vivified by pleasure. There is no such potent medicine as a hearty laugh, either for body or soul. "All work and no play makes Jack a dull boy," has been abundantly verified. If one is to be keen, alert, and vigorous, he must have experienced his share of the legitimate joys which flesh is heir to.

Indeed, too often pleasure is undervalued by those who would serve society. Our churches, for example, would do far better if they would frankly recognize the value of the pleasures in the amusements which they find it necessary to condemn, and provide real substitutes of legitimate pleasures for them, than by simply trying to crush them out with nothing to take their place. Whately says :

Mere innocent amusement is in itself a good when it interferes with no greater, especially as it may occupy the place of some other that may not be innocent. The eastern monarch who proclaimed a reward to him who should discover a new pleasure would have deserved well of mankind had he stipulated that it should be blameless.

Pleasure has its value, just as fine clothing, or good furniture, or anything else that satisfies desire, has value. No one has any more right to rob any person of a single iota of it which properly belongs to him than to rob him of his money.

No sterile spots. — We are coming to feel that to be true, and, in consequence, are concerning ourselves about playgrounds, both for children and adults, and about means of legitimate amusement. This is particularly evident in our changed attitude toward the joys of childhood. Once men felt that this childish impulse toward play and innocent amusement was to be crushed out in the interest of "breaking the colt," of grinding the devil out of him. But now we feel that if a person is to have a normal adulthood he must have had a full, rich, joyous childhood. Says Longfellow :

Oh thou child of many prayers !
Life hath quicksands, — life hath snares !
Care and age come unawares !

Like the swell of some sweet tune,
Morning rises into noon,
May glides onward into June.

Childhood is the bough where slumbered
Birds and blossoms many-numbered ; —
Age, that bough with snows encumbered.

Gather, then, each flower that grows,
When the young heart overflows,
To embalm that tent of snows.

Bear a lily in thy hand ;
Gates of brass cannot withstand
One touch of that magic wand.

Bear, through sorrow, wrong, and ruth,
In thy heart the dew of youth,
On thy lips the smile of truth.

and in a similar vein the great Frenchman, Rousseau, says upon men to prize the joys of youth and to foster them rather than crush them. The life most worth while is that which is fullest and richest at every moment of its existence, not merely successful at its end. No one of its stages may be wholly unnecessarily sterile without leaving the whole life poorer for this sterile spot. A legitimate joy enriches the life of a man even more surely than material goods, and the loss of the one is no less reprehensible than the loss of the other. Life must have content. If pleasures are to be spurned, it is only in so far as they handicap one in the search for some larger end. The wise man will not seek to suppress the things which make life rich ; but will only constrain himself so to order them that they may have their due place. Certainly the hatred of pleasure merely because it is unsecure is a very barbarous philosophy.

Get all the laughter that you can.
The future never will repay
To you or any other man
The laughs you overlooked to-day.

Inadequacy of pleasure as an end. — *Pleasure a by-product.*
— But, after all, can the search for pleasure as the chief plan of one's life satisfy the strong man? Is it not indeed a self-defeating search? Is not the surest way to miss pleasure to seek specifically after it? "The watched-pot never boils," and so it seems to be with happiness. Seek it and it will flee from you; plunge into your work and you will find it at the most unexpected places. In fact one can get genuine pleasure only as a by-product. It is only the measure of the extent to which he has succeeded in his work. One who works hard at a problem in Geometry experiences intense joy when he at last succeeds in solving it. Says Sidgwick:

A certain degree of disinterestedness seems to be necessary in order to obtain full enjoyment. A man who maintains throughout an epicurean mood, fixing his aim on his own pleasure, does not catch the full spirit of the chase; his eagerness never gets quite the sharpness of edge which imparts to his pleasure its highest zest. Similarly, the pleasures of thought and study can only be enjoyed in the highest degree by those who have an ardor of curiosity which carries the mind temporarily away from self and its sensations. In all kinds of art, again, the exercise of the creative faculty is attended by intense and exquisite pleasure, but in order to get them one must forget them.

One of our poets put this truth aptly when he wrote:

Two angels came and spoke to me.
The face of one was full of beauty;
The other wore a sadder look;
And these their names were: Joy and Duty.

I said to Joy, "I'll follow thee
Wherever thou shalt go to lead me;
I'll serve thee with a willing hand
Wherever thou may'st chance to need me."

But Joy said, "No, it may not be,
Because we twain are sister graces,
And Duty is the elder one;
We never dare to change our places.

But follow on where duty calls,
And I will ever more attend thee;
And while thou servest at her will
My presence I will surely lend thee."

Desire for pleasure insatiable.— In the second place, if you had to measure your success in life by the degree to which you had satisfied your craving for pleasure, your prospects would be poor indeed. For the desire for pleasure is insatiable. It has a strange way of growing by what it feeds upon. The more you have of it the more you want. It is like the nine-headed Hydra which Hercules was sent to kill; every time he cut off one of the heads two others grew forth in its place. At first slight pleasures are sufficient, but soon these became insipid and must give way to progressively more extravagant ones, just as the drunkard demands each year stronger and stronger drink. Everybody knows the latter end of such voluptuary — a restless slave of excitement, a characterless butterfly of humanity; and yet with it all he is, in the bottom of his heart, ready to admit that his craving is as far from satisfied as it was in the beginning — nay even that his dissatisfaction is as many times as great as his craving is bigger than it once was.

Gives life too little meaning.— Again, life has little meaning if pleasure is the last word. The pleasure seeker makes it his business to take rather than to give. Unless by accident he makes no valuable contribution to the world. He leaves no glory in his wake. His life is like a candle that flickers for a time and then goes out, leaving only darkness behind — as if it had not been. Pleasure alone is too shallow to give any real zest to existence. The advocates of happiness as the end of life have nearly all been pessimists. The

early Greek Epicureans were ready to commit suicide when the world no longer went well with them. The Ecclesiast confesses :

I said in my heart, Go to now, I will prove thee with mirth, therefore enjoy pleasure. . . . And whatsoever mine eyes desired I kept not from them. I withheld not mine heart from any joy ; for my heart rejoiced in all my labor : and this was my portion of all my labor. Then I looked on all the works that my hands had wrought, and on the labor that I had labored to do, and behold all was vanity and vexation of spirit, and there was no profit under the sun.

Professor James says, in a somewhat similar vein :

If this is the whole fruit of the victory, we say, if the generations of mankind suffered and laid down their lives, if prophets confessed and martyrs sang in the fire, and all the sacred tears were shed for no other purpose than that a race of creatures of such unexampled insipidity should succeed, and protract into endless ages their contented and inoffensive lives — why, at such a rate, better lose than win the battle, or at all events better ring down the curtain before the last act of the play, so that a business that began so importantly may be saved from so singularly flat a winding up.

The pleasure seeker weak. — And finally — which is from our standpoint the most serious objection — the way to pleasure is not the way to strength at all. It is the way rather to weakness. If a man is to be strong, he must plow his way firmly to the goal which he has determined upon. He must not permit himself to be buffeted about by external conditions. He must stand solidly as a pillar of rock unaffected by the storms which rage about. But the pleasure seeker knows no such resoluteness. He will endure no storms for the glory of victory. His policy is rather to take life easy — to drift. His conduct conforms not to some firm standard determined from within, but to the endlessly shifting opportunities for pleasure getting which environment presents from without. He is the slave of circumstances, not

their master. He is a happy-go-lucky sort of fellow who looks after his own happiness and lets the world wag on as it will. Everybody knows such irresponsible persons. Everybody laughs at their carelessness and likes them in a sort of way — for they are too inoffensive to make any one really angry — but certainly nobody ever thought them strong.

Selfish success as end. — To live for pleasure, then, is not sufficient for the virile man, because such life is flimsy, passive, drifting. He wants a life in which he can cultivate and exemplify power. He wants to be able to feel that he is of consequence in the world. Suppose, then, he seek this through an effort to win success in life in the popular sense — success as measured by riches, magnificence, reputation, etc. And, that we may properly test the legitimacy of this plan, let us suppose that he makes such success the sole aim of his life, using everything and every person merely as stepping stones to this. And let us be fair enough to give him credit with doing this with the utmost tact, so that he will not too readily alienate his fellows whom he thus uses as tools.

Prevalence. — Without doubt a large number of people do thus regard their own interests as central in the universe, and look upon their fellows as means created to administer to these. Society is for them merely a business asset to be sucked like a lemon, cherished as long as it continues to yield sustenance, and then thrown ruthlessly away. Napoleon appears to have been dominated by some such ideal. He was devoured by personal ambition. His soldiers were his tools — driven to slaughter whenever his interests required. Many a politician has regarded his fellows in a similar light, and there are modern emperors who have been suspected of the same sort of selfishness. That large numbers of plain men — traveling salesmen, merchants, employers, employees, labor agitators — are likewise often dominated by this same

ideal everybody knows. They not only "work" their fellows "for what they are worth," but even boast of having done so. They pride themselves on having made their point, either by coercing or jollyng or hoodwinking those with whom they deal. That the transaction was morally right or wrong does not concern them. It is enough that they have succeeded. And in evidence of their success they have houses, or political positions, or social prestige.

Inadequacy. — *Self-defeating.* — How about the legitimacy of this ideal? Can we find here what the rational man is really seeking? Well, on the one hand, we must observe that no policy of life is more certain of failure to reach its own ends than this one. Success itself is made more uncertain by this mode of seeking it. If one's attitude toward his fellows is not tempered with a certain amount of genuine unselfishness, they are likely in time to pay him back in his own coin. The coöperation and sympathy which at critical times he will need are likely to be withheld from him, for, no matter how much overlaid with diplomacy, his elemental selfishness can not help having continually shone through. Thus in the long run he will lose instead of gain by having thought only of himself. It is sometimes not only more blessed but more profitable "to give than to receive."

Selfish success empty. — But even if he do succeed in gaining the objects which he is directly seeking, his success proves a surprisingly poor one. Men who possess in the largest measure the very things which he is seeking are unanimous in saying that they do not bring the expected happiness. Says some one:

You have thirty horses in your stable, you can mount but one, ride after but two to six. To be truly rich one should have stomachs in proportion to the number of dinners he could afford, senses multiplied according to the amount of his stock in bank. At the close of his life the richest man has hardly spent more upon his own positive enjoyment than the poor man. He has eaten and slept, and the poor man can do as much and the proprietor scarcely more.

Rothschild is forced to content himself with the same sky as the poor newspaper writer. The most opulent banker can not order a private sunset or add one ray to the magnificence of the starlight. The same air swells all lungs, the same kind of blood fills all veins. Each one possesses only his own thoughts and his own senses. Soul and body — these are all the property which a man owns; nay, he does not even own these, for he merely has them on trust from the Creator.

The life of the man who has made it his chief business to secure these selfish ends is at its end empty, cramped, and sterile. He is frozen by the very atmosphere which his own moral coldness has chilled. Even the hard-headed Herbert Spencer, whom certainly no one would accuse of sentimentalism, says of such a one :

If we contrast the state of a man possessing all the material means to happiness, but isolated by his absolute egoism, with the state of an altruistic man relatively poor in means but rich in friends, we may see that various gratifications, not to be purchased by money, come in abundance to the last and are inaccessible to the first.

In fact the price which one must pay for this sort of success is too great. Mrs. Barbauld puts the matter well when she says :

Would you, for instance, be rich? Do you think that single point worth the sacrifice of everything else? You may, then, be rich. Thousands have become so from the lowest beginnings, by toil, and patient diligence, and attention to the minutest articles of expense and profit; but you must give up the pleasures of leisure, of a vacant mind, of a free, unsuspecting temper. If you preserve your integrity, it must be, unless you are singularly blessed, a coarse-spun and vulgar honesty. These high and lofty notions which you brought with you from the schools must be considerably lowered, and mixed with the baser alloy of a jealous and worldly-minded prudence.

You must learn to do hard, if not unjust, things, and as for the nice embarrassments of a delicate and ingenious spirit, it is necessary for you to get rid of them as fast as possible; you must shut your heart against the muses, and be content to feed your under-

standing with plain household truths; in short, you must attempt to enlarge your ideas, or polish your taste, or refine your sentiments, but must keep on in one beaten track without turning aside to the right or the left. "But I can not submit to such a life as this; I feel a spirit above it." 'Tis well; be above it, only do not repine that you are not rich. Learn to prize what you choose in place of riches.

Belongs to lower order of life.—And, in the third place, who takes this attitude turns back from the path of his progress and seeks his comrades below. For untempered selfishness has come up from the lower levels of life. It is the way of the lower animals and of the savage. They ruthlessly crowd each other for room. Each dog waits for the opportunity to snatch the other's bone. Pigs push each other out of the feed trough. Similarly, savages live only of themselves. If they forbear to indulge in undisguised selfishness, it is only because some sort of fear holds them in check. Egoism is their natural trait, and from this selfishness egoism society develops to the loyalty of its enlightened stages. It is, then, from below that the selfish man gets his characteristics. Through his shrewd and selfish aggressiveness he does not rise above his more socialized fellow but lapses below him. Because he lacks the backbone to push upward with the trend of society he permits himself to drift back to the more primitive level. He takes the least resistance. And so, despite his wink over outwitting his too trusting neighbor, despite his complacency in the thought of his ability to use his fellows as tools to get what he wants, he is in reality a very weak mortal.

Ask not whether he has or has not been successful according to the vulgar standard of success. . . . What avails it that his lands have rewarded his toil, or that all has, at the last moment, been stricken from his grasp? Ask not whether he brings to retirement the wealth of the Indies or the property of a bank; whether his couch be of down or rushes, his dwelling a hut or a mansion. He has lived to little purpose, indeed, if he has

long since realized that wealth and renown are not the true ends of exertion, nor their absence the conclusive proof of ill fortune. Whoever seeks to know if his career has been prosperous and brightening from its outset to its close — if the evening of his days shall be genial and blissful — should ask not for broad acres or towering edifices, or laden coffers. Perverted old age may grasp these with the unyielding clutch of insanity; but they add to his cares and anxieties, not to his enjoyments. Ask rather, "Has he mastered and harmonized his erring passions? Has he lived a true life?"¹

A flabby policy. — But neither the policy of pleasure seeking nor of untempered selfishness needs an elaborate argument to refute its claim on the strong man or woman. They have their answer in the fact that they simply do not and can not satisfy his yearnings. In moments of moral lethargy he may ask himself: "For whom do I labor and bereave my soul of good?" and despairingly conclude: "Better is a handful with quietness, than both the hands full with travail and vexation of spirit." But in his better moments his heart is closed to any such sentiment. His whole nature revolts against the narrowness of the purely selfish life. His heart is warmed with an ardor of generosity that, sleep as it sometimes may, simply refuses permanently to down. The plan to get most out of his life for himself makes no appeal to the courage, the chivalry, the heroism that is surging within the breast of every true man. A man of consequence is not seeking a chance to drift smoothly. As a sport he courts tragedy, for it is only such that can give zest to his life. He wants real battles to fight, and to fight under conditions that will make their winning worth while. The slimy ways of the egoist leave untouched the deepest chords of his nature. Deep in his soul he can not be content to pick out the easy road of the "best policy" man. The cowardly, the weak-kneed, the cold-blooded, the despondent, may do so if they wish, but as for him the whole torrent of

¹ Horace Greeley.

his life goes spontaneously and irresistibly in the opposite direction. Repose, comfort, prudence—nay, even logic—may possibly lie here, but strength at least lies elsewhere.

T Courage, brother, do not stumble,
Though thy path is dark as night,
There's a star to guide the humble;
Trust in God and do the right.

Let the road be long and dreary,
And its ending out of sight;
Foot it bravely — strong or weary —
Trust in God and do the right.

Perish "policy" and cunning,
Perish all that fears the light;
Whether losing, whether winning,
Trust in God and do the right.

Trust no party, trust no faction,
Trust no leaders in the fight,
But in every word and action,
Trust in God and do the right.

Trust no forms of guilty passion,
Friends can look like angels bright;
Trust no custom, school, or fashion,
Trust in God and do the right.

Some will hate thee, some will love thee;
Some will flatter, some will slight,
Turn from man and look above thee,
Trust in God and do the right.

Simple rule and safest guiding,
Inward peace and inward light,
Star upon our path abiding,
TRUST IN GOD AND DO THE RIGHT.

EXERCISES

1. Would it be going too far to say that one is under moral obligation to enjoy life and to see that others enjoy it?
2. Do you know any pleasure seeker who is satisfied with what he gets? Do you know any who is dissatisfied?

3. Is it true that the desire for pleasure, or for selfish success, grows by what it feeds upon? Is that an argument against it as a valid aim for life?

4. Do you feel it to be true that the search for pleasure could not give sufficient zest to life?

5. Can a consistent pleasure seeker stand up, when challenged, for principle? Or if he does so, does he become actuated by some other ideal than pleasure?

6. Does the writer do justice to the persons seeking dominance over others as their ideal? Does such person not prize the dominance itself, rather than the economic goods which come from his victory? Is that a legitimate ideal?

7. Do you know of cases where excessive selfishness has been self-defeating? Do you know of any notable cases where it has not been?

8. What reason have you for believing that riches would, or would not, make you feel that you had lived a successful life?

9. As you watch the behavior of a selfish man in a crowd, are you convinced that selfishness is a relic of a lower order of life? What is its biological reason for existing? To what extent do present social conditions modify that reason?

CHAPTER XXI

THE STRONG SELF — INDEPENDENCE

IN our preceding chapter we found that the strength which every red-blooded man is seeking is not to be found in pleasure, or in any other form of simply selfish conduct. Such conduct is too flabby. It is the way of the drifter and not of the fighter. It is the policy of those who, in the words of a great German writer, so govern their lives "that they may sleep well." And, being passive and pliable, it can touch no responsive chords in the bosom of the restless, courageous man for whom we are seeking a satisfying plan of life.

Desire for independence. — But there is another ancient ideal which is, at least on the surface, free from this charge of cowardice. It is the ideal of independence. This ideal is as old as the race, and yet as fresh as this morning's sun. Every strong man feels its stir within his soul. Tell me, why do men wish to lay up money "for a rainy day" or against old age? Why do they often hesitate until the last extremity, or sometimes even starve, before they will appeal to charity? Why do they have such a horror of going to the almshouse? Why do strong pupils refuse help on their problems when it is offered to them and insist upon working out the difficulty for themselves? Why do men like to live in their own houses better than in rented ones, and prefer to work for themselves rather than to hire to another? Why have states always wished to be free and self-governing? Is it not because men like to feel that they are self-sufficient

and dependent upon no one? Is it not because they dread, above everything else, to hang as a parasite upon another?

Yes, we all feel strong when we are independent; weak when we are the tools of external forces. And so from the dawn of history men have sought to find and to nurture the strength which they felt to become a manly man in independence. The kind of independence sought has varied from time to time and from man to man. Sometimes one has revolted against slavery to his passions, or subservience to the state, or dependence upon his fellow men, or obedience to social customs, or what not. But in every case he has felt that his dignity as a man demands that he stand up erect and clear-cut as an individual, and maintain a sublime indifference to his surroundings. But on the whole the earlier ideal was that of independence of the accidents of fortune and of human passion; the later that of independence of one's fellows and of social customs.

Independence of fortune as ethical ideal. — *Ancient philosophers.* — It would be hard to say how early philosophers began to set forth this doctrine of indifference to circumstances as an ideal of life. Certainly the earliest of the Greek thinkers of whom we have record counseled such restraint. Even much earlier than this, the Chinese teachers and the Hebrew sages urged it. But in India, in the religion of Buddhism, it came particularly to head. Salvation, for the Buddhist, is to be found in perfect self-discipline. One must free himself from all worldly attachments. He must cease to care for any of the petty whims of fortune which may come upon him. He must crush out his passions. He must cease to care for reputation, for friends, for worldly goods, even for the welfare of his own body. It is only when he has risen above all human desires that he is fitted for heaven. To bring about this annihilation of passion the Hindoo is said to betake himself often to the hardships of the desert; to gash himself with knives, and even to lie

for hours in the hot sand beneath a burning sun. And for all this he would spurn pity. In this victory over self he is more than rewarded.

Nor has the Hindoo stood alone in this effort to win the goods of life through steeling himself against nature. Many are those who have followed in his footsteps. Among these were the Cynics and the Stoics of the Græco-Roman world, and the religious ascetics of all ages, but particularly the Christian ascetics of medieval times. Among them, too, were Spinoza, and Schopenhauer, and the Puritans of our own early history.

The Stoics. — The emotions, so the Stoics, who are representative of all of these, taught, represent a disease, an imperfection, a disturbance of the reason itself. True virtue consists in living free and undisturbed; and that is only possible as we refuse to allow our will to be coerced by those external things and events which lie outside the power of the mind itself.

It is the good fortune of the wise man, not to need any good fortune. One prays thus: how shall I be released of this? another thus: How shall I not desire to be released? Another thus: How shall I not lose my little son? Thou thus: How shall I not be afraid to lose him? Turn thy prayers this way and see what comes.

True joy is a serene and sober motion and they are miserably out that take laughter for rejoicing. The seat of it is within, and there is no cheerfulness like the resolution of a brave mind that has fortune under its feet. He that can look death in the face and bid it welcome, open the door to poverty, and bridle his appetites, this is the man whom Providence has established in the possessions of inviolable delights.

The medieval Christians. — How much this attitude has characterized Christian civilization, all well know. From the very first Christianity has urged men to crucify the flesh. How the ascetics of medieval times tortured themselves in order to do this is an old story to everybody. They secluded themselves in dreary deserts, or shut them-

selves up in moldy monasteries. They imposed upon themselves perpetual silence, or vowed not to raise an arm for so long a period that the member became paralyzed in consequence. In every conceivable way they endeavored to mortify the flesh and its desires. And just what they did in the extreme many men in all ages, the present as well as the past, have been trying to do. And the motive for this, although often in name religious, is rather just that desire to feel that one is stronger than the things with which he deals, and is able hence to be their master.

Strength of the doctrine. — For my part I can not help admiring the grim heroism that such life demands. Surely in its own way the success attained has often been worthy of a moral giant. The old Greek Cynic, Diogenes, went about with a cup from which to drink and a tub in which to live, and of these two he threw away the cup as a luxury upon seeing a child drink out of his hands. With this meager quantum of worldly goods he was abundantly satisfied. St. Francis, founder of the order of Franciscans, when asked what could afford man his sweetest experience, replied that it would be to be out on a bitterly cold night, without food or fire, and, while the storm and the sleet cut fiercely without, to find the door of the only hut in the wilderness slammed in his face. Seneca thought himself rich in being able to count the blue heavens above him as his only valued possessions. One of the Stoics says:

I must die. Must I then die lamenting? I must go into exile; does any man then hinder me from going with smiles and cheerfulness and contentment? Tell me the secret you possess. I will not, for this is in my power. But I will put you in chains. Man, what are you talking about? Me in chains? You may fetter my leg, but my will not even Zeus himself can overpower. I will throw you into prison. My poor body, you mean. I will cut off your head. When, then, have I told you that my head alone can not be cut off?

Is not such steadfastness really to be praised?

And surely this self-denial is an essential of manhood. No one can make himself worth while without it. It is only the spineless who are the slaves of every temptation that comes their way. A man of character must often stand up, with a firm backbone and a stiff upper lip, and resolutely maintain his equilibrium in spite of the frenzy of opposition, the storms of passion, or the allurements of pleasure that rage or coax about him. He must be prepared to say "No." He must be ready to sacrifice the pleasures which weaken him. And only he who has forged his way upward to a place of consequence in life knows how much self-denial success requires. To make one's life count demands sacrifice, and whoever is not prepared to practice self-denial has no part with the strong and the noble.

Weakness of the doctrine. — *Negation a wasteful method.*
— But does the self-denial of the ascetic ring quite true to you? Is he prompted to it by the right motive? Why should one deny oneself? Merely for the sake of denial? Surely not. That would be to seek an empty life, and if life is worth while it is certainly not most worth while when it is empty. Life is made significant by what it contains, not by what it excludes. If you wish to fill a pitcher with water, you do not first pour out the air, but merely pour in the water and let the air take care of itself. If you wish to drive the darkness from a room, you strike a light and the darkness dissolves beneath it. So it is with the temptations of life. They can best be met, not by directly fighting against them, but by plunging into some absorbing mission which, by its own fullness of possession, excludes such as are incongruent with it. The life worth while must be a positive life, not a negative one. We have too many people who are morbidly afraid of making blunders, and who in consequence never plunge boldly forward. It is not the man who is continually feeling his way, overanxious lest he do something amiss, who counts for most. The aggressive,

pulsating life, full of activity, containing much good but with some evil intermixed, nets more of value than the passive, negative sort of life that avoids all evil, but in doing so has accomplished also little good.

Life must have content. — Indeed the good life must be as inclusive as possible. It must have as its nucleus a purpose worth while, and must group around this purpose just as rich a content as possible. It must exclude some things, to be sure, but only such as run counter to its mission. In so far as music, art, literature, travel, table luxuries, etc., interfere, they must be given up, but in so far as they do not interfere they should be kept. A life that is narrowed down solely to its routine tasks is like the thin rill running through the meadows; a personality that is centered in its work but broadened by legitimate means of culture and enjoyment organized about this work is like the wide river flowing through the valley. And just therein lies the error of the ascetic. He forgets that self-denial is a mark of strength only when it is rational, and that it is rational only when it is practiced not for itself, but for a positive purpose. In consequence, instead of enriching, he impoverishes his life by every success that he attains. He is making not toward strength, toward individuality, but toward stolid lethargy, toward apathy.

Asceticism and vulgarity. — Indeed just such has always been the outcome of this ideal. The Cynics did not respect even the ordinary decencies of life. The monks of the Middle Ages were often scandalously filthy. One of the greatest of the archbishops of England was judged too holy to be bathed, even after his death, and was in consequence buried with his dirt and his vermin. And even our own Puritan fathers, although they had much about them that was worthy, had also much that was hard and even inhuman. You all know the pharasaic pride, the rudeness, and the boorishness which come to characterize the man or woman

who thus cultivates indifference to affairs about him. His goal is hoggishness, just as much as is the goal of the most licentiate pleasure seeker. Only the latter assimilates himself to the hog as he revels in the swill, while the former is his partner as he wallows in the mud. But surely neither in the swill nor in the mud is manhood to be found.

Independence of society as ideal. — The other form of self-sufficiency is sought in independence of one's fellows and of social conventions. In praising self-reliance Emerson complains :

Society is everywhere in conspiracy against the manhood of every one of its members. Society is a joint stock company, in which the members agree, for the better assuring of his bread to each shareholder, to surrender the liberty and the culture of the eater. The virtue in most request is conformity. Self-reliance is its aversion. It loves not realities and creators, but names and customs.

Now every man through whom there throbs the pulse of vigorous life is at times tempted to feel that way. Social customs seem so dead. They so often weigh down with apparent injustice upon the dearest wishes of men. Socrates was executed by his city for teaching what we know was wholesome truth. George Eliot was prevented by a legal technicality from marrying the man whose love inspired her to write her great novels. The health laws, the marriage laws and customs, the police regulations, although on the whole good, often work harm in individual cases. In consequence, impetuous men often develop a certain hostile attitude toward these artificial restraints. Life, they feel, should be first. To be strong a man should be unfettered by any restraint which others set up. He should neither take favors from his fellows, nor feel constrained to give favors in return. Let him live the life of the mighty man. Let him be a fighter. Let him look after himself and let others beware. Let him stamp his foot upon this organi-

zation of his weaker brethren, formed to hold his impulses in check, which is called the state. Let him be beyond custom, beyond law, beyond even pity and generosity. Organized society is all right for the weaklings who can not care for themselves, but "only for the superfluous the state was created," — not for the man of vigorous, courageous, independent spirit.

Pervasiveness of this ideal. — This search for strength in defiance of authority begins extremely early in life. One can find evidences of it even in infancy. Certainly in the early school years a child begins to feel proud of himself for having "put one over on the teacher," and his schoolmates are not unlikely at least to secretly admire his daring. One of the cleanest and most substantial high school students of my acquaintance recently remarked to a friend of mine, "I don't care if they call me rummy, but if anybody calls me sissy, I'm ready to fight." And I have no doubt that a vast majority of young people feel just that way. They are desperately afraid — and rightly so — of being mollycoddles, and they see no alternative to this except to be a mischief maker. "Stolen sweets" have always been most attractive. Young people nearly always first drink, or smoke, or gamble, not because they like it, but because of the delight they experience in doing what is unconventional. Men who, after a period of hard work, deliberately go on a debauch do so not so much because they care for the drink, still less because they prize being drunk, as because of the grim pleasure which they feel in defying the responsibilities of the old routine work-a-day world. The vulgar vaudeville draws its crowds not only because people love the vulgar for itself, but because attendance at it is a cheap way of being wicked. There is probably no one who has felt the throb of healthy life who has not often experienced the keen sense of delight which comes to one as, half fearful lest persons whom he knows should see him yet half hopeful that they may, *he indulges* in some forbidden lark.

This philosophy of independence and of antagonism to all external authority two noted modern writers have developed into a system: — Friedrich Nietzsche, with his doctrine of the "Beyond-man"; and Bernard Shaw, with his doctrine of the "Super-man." Must we not agree with them? Must we not admit that the strength which we are seeking for the red-blooded man is to be found here?

Legitimacy of this ideal. — *Motive good.* — Well, in the first place, we must confess that its motive is good. It wishes to preserve the self in the face of forces which seek to annihilate it. You know that the routine of daily work, the constant disappointments which come to every man, and social pressure from every side, tend to crush out all individuality. Everything draws toward a single dead level. And the mass of men allow themselves gradually to drift into this dull uniformity, and become mere machines. After a little while their hopes and their ambitions fade away, and they are contented to live in the small way of the mediocre man. Against this force the philosophy in question squarely sets itself. It urges a man to keep alive his independence by exercising it. Whether by antagonizing society is the only way of exercising, and thus cultivating, individuality is indeed another question, but that it is desirable to keep men from sinking to the level of mere docile machines seems clear.

Life above conventions. — It is right too in urging that life should be placed above conventions. You recall Christ's criticism of the Scribes and Pharisees. It was called forth by their subservience to the letter of the law instead of its spirit. And just this is always the drift among small men. They become slaves to established institutions, interpreted in the narrowest sense. Against this slavery to forms at the cost of fresh and vigorous life every great prophet sets himself. Our philosophers of individualism, in this respect, seem to be among the true prophets. Their call to us to

stand ready to break with outworn custom is surely a healthy call. Whether this involves that we shall break with all forms of order or merely give up the old for better ones is, however, again another question.

Heroism. — And, in the third place, we must admire the daring of the independent self. There is certainly nothing flabby or timid about it. In his book, "Beyond Good and Evil," Nietzsche speaks truly when he says:

It is the business of very few to be independent; it is the privilege of the strong. And whoever attempts it, even with the best right, but without being obliged to do so, proves that he is not only probably strong but also daring beyond measure. He enters into a labyrinth, he multiplies a thousand fold the dangers which life in itself already brings with it; not the least of which is that no one can see how or where he loses his way, becomes isolated, and is torn piecemeal by some monitor of conscience. Supposing such a one comes to grief, it is so far from the comprehension of men that they neither feel it, nor sympathize with it. And he can not any longer go back. He can not even go back to the sympathy of men.

Hughes expresses the attitude of all virile men when he writes in "Tom Brown's School Days":

After all, what would life be without fighting, I should like to know? From the cradle to the grave, fighting, rightly understood, is the business, the real, highest, honestest business of every son of man.

Every one who is worth his salt has his enemies, who must be beaten, be they evil thoughts and habits in himself, or spiritual wickedness in high places, or Russians, or Border-ruffians, or Bill, Tom, or Harry, who will not let him live his life in quiet till he has thrashed him.

It is no good for Quakers, or any other body of men, to uplift their voices against fighting. Human nature is too strong for them, and they don't follow their own precepts. Every soul of them is doing his own piece of fighting, somehow and somewhere. The world might be a better world without fighting, for anything I know, but it wouldn't be our world; and therefore I am dead against crying peace when there is no peace, and isn't meant to be. I am as sorry as any man to see folks fighting the wrong people

and wrong things, but I'd a deal sooner see them doing that than that they should have no fight in them.

Inadequacy of the ideal. — *All interdependent.* — But after all, when we come to look more closely at this, can it really succeed as a policy of life, or is it another of those efforts which prove to defeat themselves when actually carried out? Can a man be independent of his fellows and yet be strong? The more you look into the matter the more clearly, I think, you will find that he can not. We are all interdependent and the moment one cuts himself off from the coöperation of his fellows he becomes as impotent as one of the lower animals. Unless I used the results of the labor of my fellows I should be obliged to forego all the luxuries of my home. My carpets, the pictures on my walls, my stoves, my dishes, are all made for me by others. For the articles on my dinner table I must rely upon co-laborers all over the world. For the mining and coining of the metal in my money, for my books, for my newspapers, — in fact for everything that I have which puts my life on a higher plane than that of the lower animals — I am dependent on social coöperation. If I trace out but a single element that enters into my life — say the ring on my finger — I find that it alone has brought to my service some hundreds, or even thousands of men. It has necessitated not only goldsmiths, who mold and polish it, but miners, transportation agencies, — such as railroads, telegraph and telephone systems, mail service, etc. — makers of machinery, carpenters who have built factories in which these worked, architects who have designed them, and countless others. In fact each element involved always leads on to others and this to others — as, for example, the molding machines or tools lead on to the machines which made them, these to the miners who dig the iron and the coal for the making of the machines, these to the merchants who provide the miners with their food, their clothing, and their houses, etc., —

until the simplest thing proves to depend in some way upon almost every worker in the world. We do not and can not work alone. We are all bound up into one organic whole which includes within its comprehensive embrace all levels of society, all parts of the globe, and indeed all ages of history. Bancroft says :

The world of mankind does not exist in fragments, nor can a country have an insulated existence. All men are brothers, and all are bondsmen for one another.

All nations, too, are brothers, and each is responsible for that federative humanity which puts the ban of exclusion on none. New principles of government could not assert themselves in one hemisphere without affecting the other. The very idea of the progress of an individual people, in its relation to universal history, springs from the acknowledged unity of the race. . . .

No period of time has a separate being. We are cheered by rays from former centuries, and live in the sunny reflection of all their light. What though thought is invisible, and even when effective seems as transient as the wind that raised the cloud? It is yet free and indestructible; can as little be bound in chains as the aspiring flame; and when once generated, takes eternity for its guardian.

We are the children and heirs of the past, with which, as with the future, we are indissolubly linked together; and he that truly has sympathy with everything belonging to man will with his toils for posterity blend affection for the times that are gone by, and seek to live in the vast life of the ages.

Search for independence self-defeating. — And because men are thus, in the nature of things, inextricably interconnected, the individualist's search for strength in the direction of independence is a self-defeating one. In its very nature it is self-contradictory and destined to miserable failure. For look at the plight of our philosopher of independence as he tries to live out his doctrine. In every word that he utters in defense of his philosophy he refutes himself. For he can not proclaim his individualism without making use of instruments which are the product of that very organized social order against which he rails. His

speech betrays him, for his language is a social product. The means by which he is transported from place to place to propagate his doctrine are the result of social coöperation. For the devices by which he announces his lecture he is dependent upon his fellows. Or if he choose to write instead of to speak he is no less dependent upon society. His paper is made by machinery which many men have built. His books must be printed by such machinery, and advertised and distributed by means which inevitably involve his dependence upon his fellows. Or, if he choose not to speak of his doctrine but to exemplify it in conduct, there too his coveted strength turns out to be ludicrous weakness. His gesticulations may be as fierce as the grimaces of an angry lion, but when he begins to act — without tools, without guidance by any race experience — his boasted power turns out somewhat as “the mountain that labored and brought forth a mouse.”

There is, indeed, only one kind of man who can succeed by putting himself absolutely out of alignment with intellectual and social conventions and can live, to his own satisfaction, according to his individual caprice — *the madman*. In one of Ibsen's great dramas Peer Gynt is inquiring, from the champions of various methods, how best to be one's self. He comes at last to Begriffenfeldt, champion of insanity, who praises to him madness in the following encomium:

'Tis here, sir, that one is oneself with a vengeance;
Oneself and nothing whatever besides.
We go full sail as our very selves.
Each one shuts himself up in the barrel of self,
In the self-fermentation he dives to the bottom —
With the self-being he seals it hermetically,
And seasons the staves in the well of self.
No one has tears for the other's woes;
No one has mind for the other's ideas.
We're our very selves both in thought and tone,
Our selves to the spring board's uttermost verge.

Defying convention a mark of sense of weakness. — As a matter of fact this effort to show one's strength by setting oneself against one's fellows, and by defying convention, is at basis the outcome of a lurking sense of weakness. Men who have learned to read human nature can see readily enough through that mask. The Inspector of High Schools in Illinois, speaking to teachers, says on this point :

A boy or girl assumes the attitude of a real tough, for instance, not because inherently so, but because of a desire to appear courageous, or careless, where really timidity or sensitiveness is the root of the trouble. Often an otherwise good boy, but oversensitive of being reminded of the fact, and especially of being singled out before his comrades as an example of goodness, resents the action by proceeding to demonstrate the contrary.

One often assumes a brazen attitude in the same spirit in which one whistles to keep up courage. The most extravagant of individualists, Nietzsche, was in person the very opposite of his philosophy. He was raised among women, was effeminate in manner, foppish in dress, gentle in demeanor, and feeble in body, and there is no doubt that his ferocious philosophy was the bullying of a weakling striving to cover up his impotence. But the strong man is not tempted to take this "bully" attitude. He knows his strength without continually trying it out. In consequence he can stand in the midst of his work and maintain his poise. He can, in his sense of strength, remain, as President Wilson once said of our nation, "too proud to fight"; and, confident of his ability to take the necessary care of himself, he can turn away from the sickly chatter about his own rights — so characteristic of young people — and plunge wholeheartedly into his obligations.

Give as well as take. — And so a person is inevitably linked with his fellows. Whatever society achieves reacts to his advantage. He enjoys the public streets, the removal of sewage, the results of inventions, the protection of govern-

ment. If, then, he insists upon being indifferent to society, the indifference can be only a one-sided one. Society will not be indifferent to him. It can not be. In spite of his wish to be independent, it will be continually helping him. And if he accepts this inevitable assistance from society and does not give in return, he is a sponge. If he takes his fun in opposing society, he is ungratefully turning upon his benefactor. Surely that is not the way of the red-blooded man. Besides it is an unnecessary form of ingratitude, for all that the independent self is seeking can be found legitimately elsewhere. It is possible to be a virile student and yet not be a mischief maker. It is possible to cultivate strong individuality and initiative and yet work in coöperation with society. How, we shall later see. But that the strong man owes something to society, since he receives something from it, and that he who is truly virile will not run away from this obligation, seems clear.

I live for those who love me,
Whose hearts are kind and true;
For the heaven that smiles above me,
And awaits my spirit too;
For all human ties that bind me,
For the task by God assigned me,
For the hopes not left behind me,
And the good that I can do.

I live to learn their story
Who've suffered for my sake;
To emulate their glory,
And follow in their wake;
Bards, patriots, martyrs, sages,
The noble of all ages,
Whose deeds crown history's pages
And time's great volumes make.

* * * * *

I live for those who love me,
For those who know me true;

For the heaven that smiles above me,
And awaits my spirit too ;
For the cause that lacks assistance,
For the wrong that needs resistance,
For the future in the distance,
And the good that I can do.

“Not to myself alone,”

The little opening flower transported cries —

“Not to myself alone I bud and bloom.

With fragrant breath the breezes I perfume,
And gladden all things with my rainbow dyes.

The bee comes sipping every eventide

His dainty fill ;

The butterfly within my cup doth hide

From threatening ill.”

“Not to myself alone,”

The circling star with honest pride doth boast —

“Not to myself alone I rise and set ;

I write upon night's coronal of jet

His power and skill who formed our countless host ;

A friendly beacon at heaven's open gate,

I gem the sky,

That man may ne'er forget, in every fate,

His home on high.”

“Not to myself alone,”

The honey-laden bee doth murmuring hum —

“Not to myself alone from flower to flower

I roam the wood, the garden, and the bower,

And to the hive at evening weary come ;

For man, for man the luscious food I pile

With busy care,

Content if he repay my ceaseless toil

With scanty share.”

“Not to myself alone,”

The soaring bird with lusty pinion sings —

“Not to myself alone I raise my song ;

I cheer the drooping with my warbling tongue,

And bear the mourner on my viewless wings ;

I bid the hymnless churl my anthem learn,
 And God adore;
 I call the worldling from his dross to turn,
 And sing and soar."

 "Not to myself alone,"
 The streamlet whispers on its pebbly way —
 "Not to myself alone I sparkling glide;
 I scatter health and life on every side,
 And strew the fields with herb and floweret gay.
 I sing unto the common bleak and bare
 My gladsome tune;
 I sweeten and refresh the languid air
 In doughty June."

 "Not to myself alone,"
 O man, forget not thou, earth's honored priest —
 Its tongue, its soul, its life, its pulse, its heart —
 In earth's great chorus to sustain thy part;
 Chiefest of guests at love's ungrudging feast,
 Play not the niggard; spurn thy native clod,
 And self disown;
 Live to thy neighbor, live unto thy God, —
 Not to thyself alone!

EXERCISES

1. Mention some of the ways in which one must practice self-denial in order to attain success in, say, acting or writing.
2. Have you met the type of person who is brutally frank—who always says just what he thinks? Is this, or is it not, a commendable trait?
3. Professor James advises: "Be systematically ascetic or heroic in little unnecessary points; do every day or two something for no other reason than that you would rather not do it." Is that negative sort of discipline the best way in which to train the will? Outline a positive method which you believe to be better.
4. Is it true that society is so organized as to tend continually to crush out one's individuality? Is it, do you think, to protect their individuality that men often assert themselves when they have apparently nothing to gain by such assertion? Why are we so sensitive about having our rights trodden upon?

5. Is "closemouthedness" a mark of strength? How does it manifest the spirit of independence?

6. Who is most sensitive about his rights, the man who feels perfectly secure in them, or he who feels that his ability to defend them is weak? Is autocratic and unnecessary insistence upon one's rights a mark of strength or of weakness?

7. Do you see any other way of cultivating individuality except through opposing authority and conventions?

8. Why may a man not say it is none of his business what becomes of society? Does this necessitate that one shall make sacrifices to give to society the benefit of any insight which he may have? But may not this be meddlesomeness, especially if society is reluctant to hear and to accept his message?

9. What was Nietzsche's conception of the "beyond-man"? Shaw's of the "super-man"? Do you hope that the evolution of society will produce this man? Do you fear lest it will? Why?

10. Does the text overemphasize the interdependence of men? Defend your statement.

CHAPTER XXII

THE STRONG SELF — THE POPULAR HERO

THE preceding chapter closed with the conclusion that the strong life can not be antisocial, nor even unsocial. We must work with our fellows. Turn where we will we can not escape them. Everywhere we are dependent upon them and they upon us. Whatever be the way to strength it must at least run through the vineyard of service with our fellows. We are inevitably social animals, and are destined to realize all that we are capable of becoming only *in society*. Any plan of life for the strong man must, therefore, set him in relations of coöperation with his fellows.

Prestige in group leadership. — In an earlier chapter we noticed how all creatures tend to struggle for domination in their group. Each wishes to be first if he feels that he has any chance of being such. Even the lower animals fight for the leadership when admitted to any new herd. Students who rank high in their classes are almost sure to be caught in the craze to be first in their class. Boys want athletic or club offices, especially if there is competition for them. Men often spend their fortunes, or even compromise their honor, to get political positions. Certainly the ambition to be a popular leader is a deeply seated and widely prevalent one. Ruskin says :

The seaman does not commonly desire to be made captain only because he knows he can manage the ship better than any other sailor on board ; he wants to be made captain that he may be called captain. The clergyman does not usually want to l

made a bishop because he believes that no other hand can, as firmly as his, direct the diocese through its difficulties; he wants to be made bishop primarily that he may be called "My Lord." And a prince does not usually desire to enlarge, or a subject to gain, a kingdom because he believes that no one else can as well serve the state upon its throne, but briefly, because he wishes to be addressed as "Your Majesty" by as many lips as may be brought to each utterance.

Popular adoration of the leader. — That the rest of us are dazzled by the position of the leader we clearly show. As soon as a man is elected to a position of superiority he commands a new type of respect. The margin by which he was chosen may have been a very narrow one, and during the contest others may have seemed as favored competitors as he, but as soon as the choice is made all other candidates sink to the common level while he is made, by his position, stand out head and shoulders above them. The election of a presiding officer for an assembly, the selection of a president for a nation, and especially the choice of a pope for the Catholic Church, illustrate the prestige that is attached to positions of leadership.

Indeed in the popular fancy every one except the leader is likely to be overlooked. A battle is credited to the general, though it was his soldiers who did the hard fighting, and probably his staff that did most of the planning. A bit of engineering work is credited to its head engineer, though he by no means did it alone. A reform is credited to some conspicuous leader, as the Reformation is to Luther, although he only gave expression to what great masses of men were feeling and even sacrificing themselves for. In fact until very recently history was written chiefly as the biography of its great men — its generals, its kings, its prime ministers, its inventors, — neglecting entirely the great masses of men whose service buoyed these up. We are beginning to see that history is made by the movements of its common people, and are coming to write history accordingly; but the dis-

position still persists to hold in reverence the group leader, and to do him honor as a superior sort of creature.

Legitimacy of leadership as ideal. — Now can we find the strength we are seeking in this sort of leadership? Will the strong man make it the policy of his life to be a popular hero? Can he gain the power which will make his life significant in the world and a satisfaction to himself by struggling to keep continually in command of some group of his fellows?

Gives scope for social instinct. — Like most ideals which have taken hold of large numbers of men as this one has, there is something to say in justification of it. In the first place such a policy of life gives scope for the exercise of the social functions. It does not violate that basic trait of human nature which Aristotle had in mind when he called man a political animal. It gives room for the employment of such fundamental social instincts as emulation and vanity and the like, and for making use of the advantages which come with civilization — that is, the possibility of social coöperation. In this it avoids both the emptiness of the man who seeks to be indifferent to his surroundings and the self-contradictoriness of him who defies his fellows as creatures of whom he need take no account.

World needs heroes. — Again it must be said that the world needs heroes — and has them everywhere — some actually living, some historical, some purely ideal. Every child has his own hero. There is some one to whom he looks and like whom, in his own childish way, he is ambitious to become. This may be some aggressive business man of the town, or his school-teacher, or even the village bully. Or it may be a character in history or in literature. But some concrete hero to whom he can look he will have. Of this instinct the Spartans in their day made wise use educationally. Each boy had his "inspirer" among the men, and each girl among the matrons. The inspirer cultivated the confidence of the youth, and to the inspirer the youth gave his best loyalty,

so that between them there grew up the tenderest of all possible relations. Even grown-ups have their heroes — and heroes of very diverse types — persons to whom they look for guidance, and whom they imitate even in the details of their conduct, often quite unknown to those imitated.

These heroes solve for us the problems of life. They represent our ideal embodied in concrete form, so that when we wish to know how to act we ask, What would our hero do? If, for example, we wish to know what is American we do not consult the history and the traditions of the nation, but we ask: What would Lincoln think? If we wish to know what is Christian we ask: What would Jesus do? These give to us a material embodiment of that which we seek, and our doubts are forthwith set at rest. Thus everywhere our heroes give to us, as we could not possibly get it elsewhere, a concrete solution to our ethical problems and enable us thereby to plunge confidently into life.

Weakness of this ideal. — *Abortive for society.* — This embodiment of our cause in a leader is, then, a genuine necessity in the world. But, on the other hand, if a man is really rightly to meet this need, must he not be something more than a popular hero? Must not his leadership have come, as we saw a little while ago that his pleasure must, merely by the way? Must he not, altogether regardless of his personal interests, first have plunged wholeheartedly into the cause for which he is later chosen leader? When leadership comes to the true man, does it not come often as a matter of surprise? I think so. You remember this was true in the case of Washington. He was extremely reluctant to take command of the Continental armies, and again to assume the presidency. Especially in the former case he protested his unfitness, but the office was urged upon him. And when he undertook it, he did so not out of his ambition but for the welfare of the cause. So it must be with every true leader. *He must sum up and give expression to the*

ideals of those whom he leads. When they look to him they look, not to an individual, but to their cause personified. When he ceases thus to stand to them for their cause, he can be no longer their hero. He may, by superior force or diplomacy, retain them in his clutches, but in so doing he is a tyrant and not a hero. To a private individual, such as he then becomes, they do not owe, nor will they intentionally give, allegiance. For society the hero has failed in so far as he is interested merely in being a hero.

Self-defeating for individual.—But if this policy of life is inadequate from the standpoint of society, it is much more so from that of the would-be hero. His success at best is fitful and uncertain. His failure has been the theme of story and song from the dawn of history. No novel could close more auspiciously, for the ordinary reader, than with the utter ruin of such reputation-seeker whose only ambition is to keep in the limelight. As in one's search for pleasure, his very effort makes his success more difficult. For somehow his selfishness shines through and repels men from him. About him who is seeking honor for himself there is a certain artificiality which the keen sense of the loyal can not help detecting and being disgusted with.

Success transient. And, in another way, the would-be hero courts an uncertain fate. When one's relation to life is normal, what he accomplishes lives after him. He has left foundations upon which other men can build. The good pastor of a church, for example, thinks of his successor and of the future of his church, and acts in such a way as best to subserve the interests of his institution in the long run, not merely to bleed it for the present. Indeed, even if such a one completely fails of results that can be measured, his life still has counted, for his spirit of service inspires his followers. His very failure, if he has faithfully worked, may be his greatest success. For many a loyal man has accomplished in his death that which in his life he could not possibly have

accomplished. Thus the martyrs of all ages have in their death given life to the world. Christianity clusters about the cross of Christ, and philosophy received its greatest impetus from the martyrdom of the great Athenian, Socrates. But it is not so with the popular hero. What he gains is transient. His cause is lost when he is lost, for he and that cause are one. Thus he is continually dependent upon external success. As long as he can keep the reins in his hands he may command the homage of the crowd, but when he loses his grip on these reins he is inevitably dashed to pieces. Against such fallen hero men turn with a bitterness commensurate with their former devotion and rend him to pieces. Truly his position is at best precarious.

Policy of a drifter. — And, finally, this policy turns out, like so many of our former ones, to be that of the drifter and not of the fighter. And so it proves the way to weakness and not the way to strength. For to remain a popular hero one must keep in with the crowd. When the mob changes mood, the would-be leader must change with them. He must be continually feeling the public pulse and adjusting himself to the story which that pulse tells. If he at times takes on the appearance of determination, it is only for show. If his policy is first of all to be the popular hero, he can have no intention to lash his followers into line. He can have no mind of his own. He can do no more than reflect the will of others, — a very unstable and even whimsical will, as every student of the crowd well knows.

But if one is to be strong surely he can not be thus a weathercock, turning around each time the wind changes. He must face constantly his own goal. Things must revolve around his will, not his will plially adapt itself to circumstances, where doing so involves compromising himself. To him it must be a matter of indifference whether the majority pull with him or not. He must stand up in his own strength and dare to follow his convictions. The crowd may choose

him leader if they will, but if he makes it his aim to court such choice, he can do so only at the cost of sacrificing the strength in which as a man he prides himself.

In no place in the world has individual character more weight than at a public school. Remember this, I beseech you, all you boys who are getting into the upper forms. Now is the time in all your lives probably when you may have more wide influence for good or evil on the society you live in than you ever can have again. Quit yourselves like men, then, speak up, and strike out, if necessary, for whatsoever is manly, and lovely, and of good report; never try to be popular, but only to do your duty and help others to do theirs, and you may leave the tone of feeling in the school higher than you found it, and so be doing good, which no living soul can measure, to generations of your countrymen yet unborn. For boys follow one another in herds like sheep, for good or evil; they hate thinking, and have rarely any settled principles. . . . It is the leading boys for the time being who give the tone to all the rest, and make the school either a noble institution for the training of Christian Englishmen, or a place where a young boy will get more evil than he would if he were turned out to make his way in London streets, or anything between these two extremes.¹

EXERCISES

1. Why, have you observed, do persons mostly want office? Is this, or is it not, a laudable ambition?

2. Can one ever do as much for his group out of office as in it? More? Why? Give examples?

3. Do you ever decide how to act by observing some one whom you admire and do as he does? Do you believe that any one is thus looking to you as his hero? What responsibility does that involve?

4. Is it, or is it not, true that the popularity seeker defeats himself in the long run? Defend your attitude.

5. How much permanent good did Napoleon do for Europe? How might he have done more?

6. Dr. Sun, who might have been first President of the Chinese Republic, voluntarily gave way to another who, it appeared, could better unite all the factions. Huerta clung to the presidency of

¹ Hughes: *Tom Brown's School Days*.

Mexico when his presence caused prolonged civil war. Which was the stronger man? Can you cite, from your own experience, analogous cases in minor offices?

7. To what extent does tact demand that one keep with the majority? To what extent does strength permit it?

8. History once dealt chiefly with kings, presidents, and generals. Of late it is being rewritten from the standpoint of mass movements. Why the change?

9. How do the people of the British Empire regard their king?

CHAPTER XXIII

THE STRONG SELF—ONE'S LIFE IN HIS WORK

Objective interest essential for strength. — We have now surveyed six modes of seeking strength. We have investigated their credentials, and found them all possessed of certain legitimate features. But, on the other hand, we have found in each fatal defects. Indeed, when pressed hard, they were all found self-defeating. As the chief plan of life each of them proved to contradict itself when given the reins. To seek directly neither show, nor pleasure, nor selfish success, nor indifference to fortune, nor independence of society, nor popular leadership, is the best way to win them. Like the end of the rainbow, which as children we tried to overtake, they persist in eluding him who makes it his concern to pursue them. And the chase for them results not in virility and richness of life, but in flabbiness and poverty of spirit.

And the central reason for this is not far to seek. It lies in the fact that one's interest here is directed inward instead of outward. Engaged in the pursuits discussed above one is continually feeling his own pulse. He is like the child who, in learning to walk, continually watches his own feet; like the speaker who is always aware of the gestures he is making; or like the man who, in conversation, is perpetually thinking of the correctness of his language or of his personal mannerisms; or like the person who attempts to be polished by consciously putting into practice memorized rules of etiquette. About such a one there is always a certain artificiality which is almost sure to defeat his own ends. His

conduct is flabby and awkward, and the secret of its flabbiness is just the fact that his attention is turned so largely inward upon himself.

If one would be really forceful one's interest must be objective. One must forget oneself. If he is to succeed, he must strive after some objective end. He must lose sight temporarily both of the means and of the secondary consequences of his act, and plunge toward his specific goal. If he is learning to walk, he will do best to fasten his eye upon the point which he wishes to reach, and let his feet take care of themselves. To leap a chasm he must direct his attention to the place where he intends to land. To bat the ball he must forget ball and bat and grandstand, and think only of the spot in the field to which he intends to send the missile. To be genuinely courteous he must turn aside from rules and put his heart into making others happy. To make a great speech he must lose consciousness of his voice, his gestures, and the polish of his language, and throw his soul into his message. Surely "Whosoever will save his life shall lose it; and whosoever will lose his life . . . shall find it."

Work as organizing principle. — *In the group.* — How important as an organizing principle devotion to a piece of work is, a glance at group psychology will illustrate. Every one knows that if a church is to be kept alive it must be put to work. A political party can be held together only so long as it has a vital mission to perform, at least in the opinion of its devotees. When it is no longer called upon to accomplish a work worth while its unity will first loosen and then, by more or less rapid degrees, it will inevitably disintegrate. Every party that has long persisted has done so because it has, at every important turning, sought new principles worth fighting for. Take away the necessity of struggling for a specific end and it can no longer maintain itself. The same is true of any committee. With hard work to do, it

will develop a high degree of solidarity and of forcefulness, but, when its work is done, no amount of mere sentiment can suffice to prevent its weakening and ultimately disintegrating. Thus the group is made by its work. Its integrity centers about the performance of a function.

In the individual.— And just so it is with a single individual. As long as devotion to no one mission has gripped him, his life is scattered and inconsequential. He flits lightly from one thing to another. He drifts easily along, like a cloud of vapor which the light breezes bear leisurely on. But, let him once seriously betake himself to some definite line of work, and immediately a new forcefulness manifests itself in his conduct. He is no longer like the cloud of vapor which moves with the breezes, but like the hissing jet of steam that emerges under the high pressure of its boiler. His work becomes a center about which all of his powers are organized. Around it all of the mathematics, and physics, and practical observations, and everything else that he has learned, come to be grouped. And, in consequence, his life is no longer scattered, flabby, and meaningless, but organized, forceful, and significant. Says Schiller,

Spread out the thunder into single tones, and it becomes a lullaby for children ; but pour it out in one quick peal and the royal sound shall shake the heavens.

Just such is the contrast between the man who has thrown himself into his work and him who has not.

It is often said that if you want a bit of work done, always take it to the person who is already busy. Despite his rush he is more sure to do it than the man who is idle. One does one's best under pressure. You have doubtless noticed how little you can accomplish during vacation. There is no central core around which your life revolves at such time. In consequence, you find yourself extremely indolent. You often seem benumbed. You can dream, but as for

accomplishing anything worth while, that is a difficult matter. To do a task strongly it seems almost necessary to postpone it until you get back the forcefulness which comes from plunging again into your work.

It is unnecessary to enlarge here upon the premium which nature has put upon working, and the penalty which she has imposed upon idleness. You well know the physical brawn which the laborer possesses, and the pallor of inactivity. You know the habitual contentedness of the healthy worker, and the ennui of the idle. There is not in the world a more unhappy class of people than those who have nothing to do. You know, too, how rapidly an old man decays when he once gives up his active life and merely sits by and waits for death.

In intellectual achievement. — You can see, too, that on the intellectual side devotion to a specific line of work makes for strength. One can never become a scholar merely by reading or otherwise absorbing. He may pick up a great deal of miscellaneous information, but this remains unorganized and comparatively valueless. But when he brings this culture to focus upon a line of inquiry of his own it takes on vitality. He then has a center around which to organize it. Without such creative attitude in some specific direction, he may be brilliant and polished but he can never be a power in the world. "Coleridge," wrote Charles Lamb to a friend, "is dead and is said to have left behind him above forty thousand treatises on metaphysics and divinity — not one of them complete." And because he did not plunge into any single line of work and stay by that he failed to leave the strong impress upon the world which he might have left.

In morality. — On the moral side it is equally true that it is work that makes the man. Professor James has urged us "Never to suffer one's self to have an emotion at a concert, without expressing it afterwards in some active way." To

experience moral emotions and not to express them in the conduct to which they point is worse than useless. A young lady was stranded in Chicago. She went, as a last resort, to a minister who was then preaching eloquent sermons on applied Christianity and laid her case before him. He received her coldly. When desperately pressed he mechanically reported her case by telephone to a wealthy lady "deeply interested in social problems." This benign matron took sufficient time from the writing of her papers on the Beauty of Charity to express her regret. She "thought it too bad," "hoped she would come out all right," etc., but never lifted a finger to help her on her feet. About such "interest" in social welfare there is certainly a contemptible hypocrisy. Sympathy with one's fellows must show itself not in words but in deeds. Byron pictures the mildest of the prisoners of Chillon:

With tears for naught but others' ills
And then they flowed like mountain rills,
Unless he could assuage the woe
Which he abhorred to view below.

Similarly, religion must exemplify itself in service, not in fine speeches and polished prayers; patriotism must consist in an actual, concrete interest in the state's affairs, not in fourth of July orations; and love must show itself in devotion, in self-sacrifice, in little attentions, not in eloquent protestations. In all of these cases one must first of all serve, and the emotion, if it is genuine, must group itself about this service. The man who claims to love his state and yet does not gladly obey not only the letter but the spirit of its laws, and in every possible way promote its interests even to his own detriment, is a liar. So also the man who protests love for another, and yet is not unselfish in his dealings with that other, is making empty boasts. True love is declared by what it does.

There is in life no blessing like affection ;
It soothes, it hallows, elevates, subdues,
And bringeth down to earth its native heaven.
It sits beside the cradle patient hours,
Whose sole contentment is to watch and love ;
It bends o'er the death bed, and conceals
Its own despair with words of faith and hope.

Work makes the man. — He then “ who is greatest among you must be servant of all.” The strong man must be first of all a center at which work is going on. About this work his whole personality comes to revolve. In fact, as a person he is defined by his work. His very selfhood consists in the unitary plan of action that runs through his history. Without such unity of action he could be a thing, perhaps even a biological organism ; but not a self. A self must first of all *do*, and only afterwards, and in consequence, can it *be*. One's life, as a person, is inevitably in his work. Only when one marks out for himself a definite plan of action which shall be his does he come to birth as a person. Only then does he take on individuality and moral significance.

For when, indeed, do you know who a man is? Not when you know his name, for that is merely a superficial tag. If you know no more than that, he is to you just as a post that is marked on a chart — a classified object. Not when you know where he lives, for that tells little or nothing of what you may expect of him. Not when you know what he looks like, for that merely enables you to know when he is passing by. Before you really know the man you must know what he has accomplished in the world, what plan of action runs through his life, what he aims at, what he hopes and intends. It is here in his work that the significant part of his life consists. Until he has thus fastened down to some specific line of conduct he is more or less of a nonentity. But with his life focused upon a definite aim he acquires a significance and a momentum that makes him a creature to be taken account of.

Successful Men Hard Workers. — Men who have left their mark upon the world have been almost invariably men of hard and persistent work.

"Daniel Webster," said Sydney Smith, "struck me much like a steam engine in trousers." "I know that he can toil terribly," said Cecil of Walter Raleigh, in explaining the latter's success. Dr. J. W. Alexander exhorted young ministers, "Live for your sermon — live in your sermon. Get some startling to cry Sermon, sermon, sermon." Charles James Fox became a great orator by "never letting an opportunity for speaking or self culture pass unimproved." Henry Clay could have been found almost daily for years in some old Virginia barn, declaiming to the cattle for an audience. "Never," he said, "let a day go by without exercising your power of speech." Beecher for years used to practice speaking in the woods and pastures.

The nation which in all history we count most virile was a nation of workers — Rome. '*Laboremus*' (we must work) was the last word of the dying Emperor Severus, as his soldiers gathered around him. 'Labor,' 'achievement,' was the great Roman motto, and the secret of her conquest of the world. The greatest generals returned from their triumphs to the plough. . . . Rome was a mighty nation while industry led her people, but when her great conquest of wealth and slaves placed her citizens above the necessity of labor, that moment her glory began to fade; vice and corruption, induced by idleness, doomed the proud city to an ignominious history.¹

Need of definite purpose. — But it is not enough to work. The strong man is made not by work alone, but by work that centers about a single plan. He must not be the Jack of all trades. He must choose his mission in life and stick to it, leaving the rest of the world's work to others. Says Carlyle:

The weakest living creature, by concentrating his powers on a single object, can accomplish something; whereas the strongest, by dispersing his over many, may fail to accomplish anything. The drop, by continually falling, bores its passage through the hardest rock. The hasty torrent rushes over it with hideous uproar and leaves no trace behind.

¹ Orison Swett Marden,

Orison Swett Marden sets forth the need of a definite purpose in the following forceful passage :

A definite purpose is like the sides of a cannon or barrel of a rifle, which gives aim and direction to the projectile. Without these barriers to concentrate the expanding powder, it would simply flash without moving the ball. How many a miserable failure might have been a great triumph ; how many dwarfs might have been giants ; how many a "mute inglorious Milton" has died with all his music in him ; how many a scholar has sipped of many arts, but drank of none, from just this lack of a definite aim !

The mind is naturally a vagrant, prone to wander into all sorts of byways unless kept steadily and resolutely to its purpose. It was a great purpose which made Socrates indifferent to the hemlock. A voice had spoken to his soul, and he obeyed it. It was irresistible. It was a great purpose which made Grant invincible, and enabled him to hammer away at the Confederacy, in spite of the armies and difficulties in front, and the criticism and opposition of the press behind him, until he had received Lee's sword at Appomattox.

It is a great purpose that grinds into paint all the experiences, fag ends and waste of life, and makes everything available for the great canvas of our art, which otherwise would be dissipated and lost.

To succeed to-day you must concentrate all the powers of your mind upon one definite goal, and have a tenacity of decision which means death or victory. Every other inclination which tempts you from this unswerving purpose must be repressed.

Your purpose may not be very definite at first, but like a river which starts in a series of ill-defined pools or streams, if all your aims are in the right direction they will finally run together, and, swollen by hundreds of side rills, merge into a mighty stream of purpose and sweep you on to the ocean of success. A great purpose is cumulative ; and, like a great magnet, it attracts all that is kindred along the current of life.

Strength in work. — If one would stand out, then, as a strong, virile man he must choose some definite part of the world's work as his own and plunge wholeheartedly into it. Only such devotion to a work worth while will raise him above the trivialities of life.

Every man needs the inspiration of a great mission to lift him above the pettiness and cheapness which are the bane of ordinary lives. Some great undertaking with an element of heroism and moral sublimity in it, the very contemplation of which quickens the blood and fires the soul and awakens an ever-present sense of the dignity and significance of life, — this is an essential condition of all great achievement.

'Tis not for man to trifle: life is brief,
And sin is here.
Our age is but the falling of a leaf,
A dropping tear.
We have no time to sport away the hours;
All must be earnest in a world like ours.

Not many lives, but only one have we;
One, only one.
How sacred should that one life ever be —
Day after day filled up with blessed toil,
Hour after hour still bringing in new spoil!

EXERCISES

1. Can one meditate too little in advance of action? Too much? Why?

2. Do really good men think much about their motives? To what extent and why ought one study his motives? What is the effect of too much fingering of one's motives?

3. In making a speech have you ever found that, although you seem to have nothing to say at the start, relevant thoughts will begin to come to you after you are once launched in your speech? Does the same thing happen when you sit down to write or to study? Do one's purposes in life analogously begin to take on definiteness and force only when one begins to act them out?

4. What is the relation of work to happiness?

5. Men who write books are usually scholarly in the particular field in which they write. Do they write because they are scholars, or are they made scholars by their writing?

6. Spinoza, while urging that one should help his neighbor where he could, condemned pity. Discuss the value of pity which does not express itself in actual help.

7. Is it true that a person is known by what he does — by the

plan that runs through his life — rather than by any other characteristic?

8. What would be the effect of following Dr. Alexander's advice to the young minister to *live in his sermon*? Would that advice apply also to other work?

9. Discuss the value of "diffused ambition" — that is ambition not directed toward attainment of success in some *specific* work.

10. Can you measure love by the sacrifices to which it prompts one? By any other standard?

11. Give examples of persons whose lives took on a new forcefulness and definiteness in consequence of accepting some new responsibility — as that of supporting the family thrust upon them by the death of a father.

12. What did the Apostle James mean by saying that "Faith without works is dead"? Show that that is true.

CHAPTER XXIV

HOW WORK MAY BE SAVED FROM DRUDGERY

IN the preceding chapter we saw that only in work is strength to be found. As long as one depends upon external conditions to supply him with the means of enjoyment, or as long as he keeps his attention turned inward upon his own interests and feelings, so long is his life flabby, scattered, and unsatisfactory. But when he focuses his powers upon some line of work, and plunges wholeheartedly into this work, his life takes on unity, coherence, and momentum.

Work as drudgery. — But work alone is drudgery. It gradually grinds the life out of a man. If his work is hard and monotonous it will in time inevitably benumb his faculties. The superintendent, the office clerk, the traveling salesman, may sustain, or even develop, their culture, but the manual laborer is in danger of progressively sinking to the brute level. He may leave school with the intention of continuing to study in the evenings, but he soon finds out that he returns from work too tired to think, and with too little ambition to hunger any longer after cultural opportunities. Bodily fatigue has an extremely paralyzing effect upon the brain. One can not well work hard and think hard.

Edwin Markham has expressed this fact with terrible vividness in his poem "The Man With the Hoe":

Bowed by the weight of centuries he leans
Upon his hoe and gazes on the ground,
The emptiness of ages on his face
And on his back the burden of the world.

Who made him dead to rapture and despair,
A thing that grieves not and that never hopes,
Stolid and stunned, a brother to the ox?
Who loosened and let down his brutal jaw?
Whose was the hand that slanted back his brow?
Whose breath blew out the light within his brain?

Is this the thing the Lord God made and gave
To have dominion over sea and land;
To trace the stars and search the heavens for power;
To feel the passion of Eternity?
Is this the Dream He dreamed who shaped the suns
And pillared the blue firmament with light?
Down all the stretch of Hell to its last gulf
There is no shape more terrible than this —
More tongued with censure of the world's blind greed —
More filled with sign and portents for the soul —
More fraught with menace to the universe.

What gulfs between him and the seraphim!
Slave of the wheel of labor, what to him
Are Plato and the swing of Pleiades?
What are the long reaches of the peaks of song,
The rift of dawn, the reddening of the rose?
Through his dread shape the suffering ages look;
Time's tragedy is in that aching stoop;
Through this dread shape humanity betrayed,
Plundered, profaned, and disinherited,
Cries protest to the judges of the world,
A protest that is also prophecy. . . .

And something like the same thing is true of work other than manual. The endless whirl of busy office routine, the typewriting of a monotonous series of letters, the adding endless columns of numbers, or the serving of hordes of customers is likely to sap the life out of the worker. Mere work — work only for one's daily bread, work to which one goes reluctantly and which he quits with joy — is not this the destroyer rather than the maker of individuality in men?

Work and play. — But need work be of this benumbing kind? Is it merely the fact that it is hard that makes it

dispiriting, brutalizing? Is not play often quite as strenuous as any work and yet refreshing rather than benumbing? Are there not even men and women who plunge into what is really work in such a spirit as to give it for them the value of play?

Difference between work and play. — These queries lead us to ask what is the difference between work and play. When the child imitates his father in shoveling snow he does so because he delights in the activities involved. Each time he lifts up a shovelful he feels his superiority and enjoys the feeling. He does not care about the end — getting the snow away — but is absorbed in his delight in the means by which that end is being realized. This is pure play. Play is always marked by this pleasure in the means rather than in the remote end. Again consider the man playing cards. He is, of course, somewhat interested in winning the game — and therefore is concerned with a remote end — but most of all he enjoys the steps by which the game is won. He is thrilled with pleasure every time he draws a good hand or makes a clever play. The winning of the game is really forgotten in the intense joy of the process.

On the other hand, in work one is interested chiefly in the end to be attained. The means by which the end is to be reached are not enjoyed. Indeed so far as the activity is mere work the means are irksome. The day-laborer is looking forward to his dollars at the end of the day. He would, if possible, gladly evade the unpleasant tasks by which the money is to be earned. It is only his entirely extraneous interest in a result that can not be otherwise gained that holds him to the uncongenial activities in which he must engage.

No fixed dividing line. — Plainly, then, there is no strict dividing line between work and play. In so far as one enjoys the process it is play. In so far as one cares for an extraneous end it is work. The ball player — if he is a profes-

sional — may have as his inducement his day's pay rather than the pleasure of playing; or the card player — if he is a gambler — may be concerned only with the stakes. In such case the affair becomes work. On the other hand one may engage in highly useful pursuits with keen enjoyment in every moment of the activity. This attitude was expressed by Professor Palmer, when he remarked: "Harvard University pays me for doing what I would gladly pay the University for letting me do." Done in such spirit work becomes play.

No job is in itself work. No activities are in themselves play. It is not work because it leads to useful results; it is not play because it is useless. It is made one or the other merely by the attitude of the doer. If his attitude is one of spontaneity, of free choice, of self-direction, of willing service, the job has all the joyous, the vitalizing, the humanizing, the vivifying attributes of play. On the other hand, if his attitude is one of reluctance, of obedience to external compulsion, of service merely for pay, it has all the dull, benumbing, dehumanizing attributes of mere work.

Work should be spontaneous. — Herein, then, lies the reconciliation of our two apparently conflicting facts. It remains true that only in whole-souled work can strength be found. On the other hand there is no reason why all work could not be done in such spirit as to free it of its dehumanizing aspects. Not by mere work but by *loyal* work is the knot untied. The strong man must freely choose his job and carry it through in the spirit of spontaneous self-impulsion and self-direction. He must find a vocation that is congenial to his spirit, and — more important still — one in the value of which he can firmly believe. He must then see that he is winning a victory, and hence realizing himself — experiencing his strength — at every turn of his work, and in every one of its achievements must feel that he is *making a contribution to the world that will forever enrich*

it. He must be able proudly to stand with shoulders back and head erect and say to men: "The world would have a gap at this point were I not here to fill that gap with the results of my efforts; nay even without the product of this very moment's effort of mine something would be incomplete."

Loyal work not dehumanizing. — Who takes such attitude finds no task irksome. He may return at night tired in body, but he can not be crushed in spirit. Throughout the day his heart has beaten with that vigor which can come only with optimism, with a sense of continual victories, and with a consciousness of being worth something in the world. When as teacher he has taught and inspired his class he feels that in that hour he has implanted leaven which will spread until all the world will in some measure and throughout all the future profit by it. When as a mason he has cut his stone and fitted it into its place in the wall, he feels that therein he has accomplished a fact which makes the world by so much the richer. When even as scavenger he has cleaned the gutter or the cesspool, he is aware that but for his act a socially necessary deed would have been left undone. He takes his pay as a necessary means of livelihood, but does his work enthusiastically as a bit of social service. Such spontaneous, expansive attitude has been scientifically demonstrated to be an effective antidote to deterioration, and even largely to fatigue. How fully one is entitled to this sense of the dignity and importance of his work, and on what principles the loyal servant must choose his task, we shall later consider at length.

The first means, then, of saving work from becoming drudgery, and from crushing one's life instead of making it, is to enter into that work freely, spontaneously, loyally; to offset its irksomeness with a continual sense of its social value; to escape being a mere machine driven by others by voluntarily directing oneself in the requisite way.

Recreation. — But there is a second means also important ; namely, to keep alive the broader human element through giving some time each week to its cultivation. That will involve two lines of endeavor, — recreation, and personal culture.

Recreation is as essential as work. In fact, in the long run, a man can accomplish more by interspersing proper recreation periods within his work than by keeping continually down to the same routine. One's very loyalty, then, to his work may induce him, if he is intelligently loyal, sometimes to quit that work for shorter or longer spells. Such recreation may take either the form of bodily or mental rest, on the one hand, or that of activity in a different direction from that of one's central vocation, on the other. There are times when it is proper to take one's rest by merely remaining quiet — times when muscular or mental fatigue has left the tissues so depleted that they protest against any sort of activity. But there are more frequently times when what one needs is change, rather than cessation, of activity. To bring into play other organs of the body is recreative as well as, and often much better than, mere idleness. The scholar needs sometimes to read light literature which does not make him think ; the office clerk can rest best in an hour's football practice ; the ironmolder may find his recreation in a game of pool or of dominoes ; the housewife may again get hold of herself through an evening at the sewing circle or in private company. Even the man who has hard manual labor may find it to his advantage to follow his day's work with calisthenics for the correction of physical defects which his work tends to produce. Dr. Frances Gulick Jewett says on this point :

Muscles stay in the position in which they do their hardest work. . . . From the man who digs to earn his daily bread on the farm or in the coal mine, to the man who climbs a mast and risks his life in the tempest, — through each occupation of life

the muscles of the body are called upon to do their hardest work in special positions. And it sometimes seems as if numberless human beings would have to submit to their fate and accept muscles which their work has forced on them; for after a man has chosen his life work he can not leave it simply because he objects to the shape which it is giving to his body.

Fortunately, however, there is a happy outlook even for such people as are obliged to work with their bodies bent, for there is another important fact about this law of contracting and stretching. I give it concisely:

Brief, vigorous exercise in the right position will undo much of the harm of long-continued exercise in the wrong position.

If a man who works in a bent posture all day will spend five minutes a day in taking vigorous exercise with his back straight, alternately tightening hard and then relaxing the muscles of his back and neck, he will find that, within one month, there will be an improvement. By this simple device a man can save himself from his rounded back and be able to hold his head where it should be.

Value of an avocation.—Indeed it is wise, in the interests of proper recreation, for everybody to have not only a vocation, which constitutes his chief business, but also an avocation, which occupies his spare time. The teacher may raise chickens on the side, the day laborer may study History or Political Economy, the banker may write articles for the magazines, the merchant may make for himself pieces of furniture, and the central work of each will profit by the side line rather than suffer from it. Indeed, many of the world's most noted men are known not for what constituted their vocations, but for what they did in their leisure hours as pleasant avocation. Such was the case with Spinoza, Bacon, and Hobbes in Philosophy; with Galileo, Faraday, and Hugh Miller in science; with Burns, Grote, and Madam de Genlis in History and Literature. But where one does not have such systematic avocation its place may be taken by membership in an athletic club, by hunting and fishing trips, or by club or literary society activities. To have such avocation is not to split one's life and run it in two directions.

Rather the avocational activities are subordinated and supplementary to the central vocation, and add to this scope and momentum.

Personal culture. — On the other hand, and parallel to the activities discussed above, one may save oneself from becoming a mere machine through personal culture. It is through such personal culture that the human, the universal element in man is nurtured. If this culture takes the form of the reading of literature, one enters there into the emotions common to all mankind. For true literature is not of this town or that, of this country or that, of this race or that, of this age or that. Its spirit is the universal spirit of all times and all places, so that, when translated into other languages, or brought to light in other centuries than those in which it originated, it still echoes what is most fundamental and most universal in man's life. So that by reading it the rough edges of one's provincialism tend to be ground off, and one is absorbed into the common life of mankind.

If the culture takes the form of the study of history, that too is broadening and humanizing in its effect. It enables one to see how other men have looked at the world's problems. It takes one out of that little cycle which makes up his petty present life and indefinitely widens the scope of his vision. It enables him to share consciously in that large current of universal life which has been flowing through the ages. If his culture takes the form of the appreciation of science, or of art, or of music, that too can lift him out of his rut and bring him to share in the larger world of his fellows. For in these realms all men are brothers. To the extent to which we enter into the ideals and passions exercised in these fields, to that extent do the limitations of our private selves fall away and we become one with the throbbing life of humanity.

Liberalized vocation. — But this culture is probably worth most as a means of salvation from drudgery when it centers

more or less definitely about one's vocation and liberalizes that. There is no job so menial but that it opens out into the broadest human interests. A certain ambitious youth was set to the unpromising and effeminate task of selling lace. But he was undaunted by the apparent narrowness of the field. Although having then nothing to do with the purchase of lace, he took to studying lace catalogues in order to acquaint himself with the various kinds and their uses, and with the various manufacturers, their prices and claims. Then, to enlarge his hold upon the field, he studied commercial geography and economics and thus acquainted himself with the commercial and industrial conditions under which lace is manufactured and distributed. And then, that he might be able to answer in a more intelligent way his customers' questions regarding the effect of certain dyes, the conditions of the shrinking, and the rotting of the fabrics, etc., he made a thorough study of chemistry. It is no wonder that in a few years this young man was no longer at the lace counter as a clerk, but the company's expert buyer of laces in Paris. He had not allowed his menial job to cramp him. Instead he had followed out the implications of the job until it had widened into the whole of human culture and endeavor, and it was this large human element that he brought each day to focus upon his work.

Implications of one's job. — And in this same way every job can open out into infinity until it becomes too big in its implications and too sacred for any man. The newspaper correspondent can acquaint himself with the grave social consequences of his work and the responsibilities which it involves, with the marvelous development of journalism, with the wonderful complexity and organization of the system to which he belongs. The blacksmith can inform himself on the physics and chemistry of the processes with which he deals, with the long history of the craft, and with the beautiful and inspiring literature that centers about it and idealizes it.

Even the street cleaner or the bootblack can find enough of science, of history, of literature, of inspiring story centering about his work to make it full of dignity and of poetry.

There is no job into which one can not go in a professional spirit. There is no job which does not open out into the whole of human culture. There is no job which of itself is of such a nature as to cramp and brutalize a man. The crying need is rather for men and women who are big enough adequately to man our so-called menial jobs. Says Carlyle :

The situation that has not its duty, its ideal, was never yet occupied by man. Yes, here in this poor miserable, hampered, despicable, actual, wherein thou even now standest, here or nowhere is thy ideal: work it out therefrom, and working, believe, live, be free. Fool! the ideal is in thyself.

In a similar vein Emerson, in opening his oration on "The American Scholar," says :

The planter, who is man sent out into the field to gather food, is seldom cheered by any idea of the true dignity of his ministry. He sees his bushel and his cart and nothing beyond, and sinks into the farmer instead of the *man* on the farm. The tradesman scarcely ever gives an ideal worth to his work, but is ridden by the routine of his craft and the soul is subject to dollars. The priest becomes a form; the attorney a statute book; the mechanic a machine; the sailor a rope of a ship. In this distribution of functions the scholar is the delegated intellect. In the right state he is *man thinking*. In the degenerate state, when the victim of society, he tends to become a mere thinker, or still worse, the parrot of other men's thinking.

Strength through spontaneous work. — The work, then, in which the strong man must find his strength and his individuality must not consist in one little rill running through the desert. Rather it must consist in an immeasurable dam concentrating its force upon one definite outlet, and projecting its waters with that power which only a circumscribed outlet, *fed by an unlimited store*, can possess. The strong

man must be one with his fellow craftsmen, one with his nation, one with all his fellow-men, one with the universe. Yet all this breadth of spirit he must not possess merely as an intellectual luxury, but must at every moment draw it to a focus through his life and concentrate it upon that work in the carrying through of which his life, his individuality, his selfhood consists. He must, that is, be not only a worker but a loyal worker — a worker who so supplements his vocational with avocational activities as to make him in the long run the most effective social servant; a worker who chooses his job not because he must but because the work calls him; a spontaneous, self-directed and self-impelled worker; a worker who labors in conscious and willing coöperation with his fellows; a worker who goes to his job, however menial in reputation, with an enthusiastic professional spirit, thus dignifying his work with the dignity of his own spirit.

EXERCISES

1. Do you know people who have, as the result of "experience" with the world, gradually lost their idealism? Describe the process.

2. Is "The Man with the Hoe" a true picture of life? To what extent can we compensate, by idealizing through poetry, "the toilworn craftsman who laboriously conquers the earth and makes her man's"?

3. Give examples, from your own observation, of tasks which, although requiring sustained effort and leading to useful results, are yet done in such spirit as to make them essentially play. Do you believe that every task could be done in this spirit?

4. Illustrate how one can view his work as a means of expressing his own individuality and of thus realizing himself. Why is that worth while?

5. Is it true that if one left a bit of his work undone a gap would be left in the world? Could not his neighbor do the neglected job? But who would then do the job which this neighbor would be obliged to leave undone in consequence?

6. Is a bit of work in which you pride yourself ever dehumanizing? Is it fatiguing?

7. What is the difference between vocation and avocation? What may constitute a schoolboy's avocation? To what extent should such avocational activities be engaged in by school boys? To what extent by out-of-school people? When does an avocation become a handicap?

8. Much has been said of late in defense of school training designed to fit the pupil for "enjoyment of leisure." Show how the pupil might be fitted also for "enjoyment of labor."

9. By trying it out with several unpromising jobs, test the truth of the statement that "There is no job which of itself is of such a nature as to cramp and brutalize a man."

10. Do you know of any persons, either from your own acquaintance or from history or literature, who, in spite of the fact that their work is of an unpromising nature, are yet "grand men," — men of large human interests and sympathies?

CHAPTER XXV

LOYALTY

IN the preceding chapter we were led to the conclusion that not merely in work, but in loyal work, is that strength to be found for which we have been inquiring. One's life must be focused in pursuit of some definite line of activity which makes up a consistent bit of work. But around this focus there must be grouped those larger interests and sympathies which make a man one with his fellows. His life must be inclusive, comprehensive, even universal in scope, yet all of its manifold content must point together into one channel of expression. Through the true individual, in the performance of his mission, all of the universe, then, gets expressed, and, in turn, through a cultivation of his larger human relations, the petty life of the individual is widened out until it becomes, in extent and significance, one with the universe.

Loyalty. — But we must not think of work here in the narrow sense in which the term is ordinarily understood. It must mean for us any consistent, purposeful activity. And, that we may avoid misunderstanding, we had better adopt, at this stage, a word with a wider and better connotation — *service*. Or, better still, we may take over from a great recent philosopher the yet stronger term, *loyalty*.

Loyalty, as Professor Royce defined it, is "the willing and practical and thoroughgoing devotion of a person to a cause." This cause may be whatever you please. It may be the cleaning, with scrupulous care, of the streets; the *molding*, as best you can, of iron plates; the designing, with

utmost fidelity, of houses; the performance, with your deepest devotion, of your duty as teacher; the development of your lodge or your church; the improvement of your school or college; the stimulation of an interest in good reading; the cleansing of the politics of your town; the protection of your nation from its enemies; or the propagation of some large social reform which you have taken to heart. But, whatever it is, you are giving in it loyal service if you have freely chosen it, out of the mass of duties that await performance in the world, as the mission that shall be yours, and are plunging wholeheartedly into it.

Professor Royce says :

A loyal man is one who has found, and who sees, neither mere individual fellow-men to be loved or hated, nor mere conventions or customs, nor laws to be obeyed, but some social cause, or some system of causes, so rich, so well-knit, and to him so fascinating, and withal so kindly in its appeal to his natural self-will, that he says to his cause: "Thy will is mine and mine is thine. In thee I do not lose but find myself, living intensely as I live for thee." If one could find such a cause, and hold it for his lifetime before his mind, clearly observing it, passionately loving it, and yet calmly understanding it, and steadily and practically serving it, he would have one plan of life, and this plan of life would be his own plan, his own will set before him, expressing all that his self-will has ever sought. Yet this plan would also be a plan of obedience, because it would mean living for the cause.

Implications of loyalty. — *Pertains to small as well as great occasions.* — It is plain that, in this sense, loyalty means much more than it usually suggests. It has often been used only in connection with some great crisis. It was supposed that one could show his loyalty to his nation by sacrificing his life for her protection against her enemies in war. It was believed that a man could prove his loyalty to God by suffering martyrdom for His cause. It was understood that one could exemplify loyalty to his friend by sticking to that friend at the cost of some great personal inconvenience.

But the opportunities for loyalty were supposed to come rather rarely. It was not supposed to have anything to do with the dull routine of everyday affairs. Now the instances cited above are usually cases of loyalty, but, understood in our broader sense, the term includes much more than these. Loyalty is possible not only in great crises, where the flare of trumpets and the beating of drums attend it, but wherever there is a bit of service to be rendered of no matter how little apparent dignity. One can rank among the truly loyal just as well by hoeing his garden properly and producing needed food as by leading an army.

Does not stop with sentimentalism. — It is plain, too, that loyalty means no mere evanescent emotion, as it sometimes seems to imply. It does not consist of extravagant protestations and Fourth-of-July orations. It is a *practical* and thoroughgoing devotion to the service of some cause, and, as practical, it must work for concrete results. It demands that one steady himself until he can see where to take hold that he may serve his cause most effectively, and that he then quietly but persistently realize this service in action. It unselfs him — takes the center of his interest out of his own skin and implants it in his cause, so that his sole joy is in the prosperity of his cause. In fact he is so lost in his cause that he retains no separate individuality. In it his private self finds that enlargement — that universality — that it takes to make of a man a whole man, and in him it finds that definiteness and concreteness of practical expression that it takes to bring it from the realm of impotent ideals to that of vital reality.

Loyalty free from contradictions. — Now loyalty as a plan of life is not subject to the contradictions from which the other plans, which we have tried out, break down. It is not morbidly subjective. One projects himself continually *into* his work, and the more he becomes fascinated by his cause, and the more he devotes himself to it, the more both

he and it prosper. It does not make for flabbiness, as the search for pleasure does, for one stands up steadfastly for those specific conquests which he means to wage for his cause. Indeed from the largeness and nobility of his cause he gains poise, constancy, firmness. Self-denial he practices, but not for its own sake, and hence, while he wins the dignity and balance of the Stoic, he escapes the stolidity of the independent self. His life he wishes to be broadly human, to be vigorously and vitally pulsating, but this rich life he insists upon bringing as a sacrifice to his cause. It is, too, a method of seeking strength, which, unlike that of the popular hero, is open to all. Nor is the loyal man a weather-vane as is the would-be leader of crowds. Neither does he know such failure as the pleasure seeker, or the wealth seeker, is almost sure to suffer. The loyal man never really fails. He may not at the time get objective results, and may even die before the victory is won, but if his devotion has been sincere and intelligent the influence of his loyalty will spread to others, and his work will be carried through by those upon whom his mantle falls. The achievement of the personal self-seeker is cut off at his own death, but that of the loyal man continues. For the success at which the latter has been aiming is the success of his cause, and toward this future servants can continue to work on the foundations which he has laid.

But if, as such, his work should not prosper, still he can not fail. You remember Longfellow's statement :

Talk not of wasted affection ; affection never was wasted ;
If it enrich not the heart of another, its waters returning
Back to the springs like the rain, shall fill them full of refreshment.

And so one might say of loyalty. Whether one's cause succeeds or fails he gains, if he has plunged devotedly and whole-heartedly into it, that calm joy, dignified by sorrow, that peaceful exaltation, that pungent strength, which can

come only to those who are conscious of having served at their best in a good cause. The justification of one's loyalty is thus in the enrichment of his own life, and of this enrichment no accidents of fortune can rob him.

Loyal man free from compulsion. — But, what is from our standpoint most important of all, the loyal man is not driven by external compulsion. He is his own master. It is true that he belongs to his cause rather than to himself. He claims no rights other than those which his cause allows him. He has no separate personality, for he is wholly absorbed in his work. Yet he belongs to his cause for no other reason than because he himself chooses to belong to it. He yields to its claims upon him merely because he fully acknowledges those claims. There is no compulsion whatever about it. He can withdraw from his cause at his pleasure. He can reject any or all of its obligations at any time. He can assert his individual caprice as against the systematic devotion to which it calls him whenever he will. But so long as he remains loyal he *chooses* not to do so. He himself wills the hard, aching toil which his cause requires. He himself inquires what rules are required by its best interests in the long run, and voluntarily adopts them as his own. On his own initiative he considers which of his habits or mannerisms militate against the success of his cause, and gladly and spontaneously foregoes them. He thus escapes external compulsion by orienting himself appropriately from within — by doing what is required even before it is asked.

Loyalty and convention. — *School conventions.* Hence conventions do not gall the loyal man as we earlier saw that they do the would-be independent self. For he does not regard them as a challenge to his individuality, and is hence not humiliated by them. When, for example, he is tempted to revolt against the rules of his school he reasons that these were formulated, not to crush student life but to promote it; *that*, however irksome they may seem in his particular case

in this specific instance, they are on the whole good ; that they are such as he, in his better moments, would wish them to be ; that they therefore express his own most rational will ; and that he is most an individual, not when he blindly opposes them, but when he accepts them as his own and conforms to them of his own free choice. Certainly it is possible to be as virile in fighting for the welfare of one's school as in fighting against it.

Social conventions.—The same thing is true of social conventions. The little forms of politeness, the fashions of the day in dress, the customs regarding honor and marriage, and a thousand other apparently artificial forms, the loyal man does not obey reluctantly as external. He recognizes them as having grown naturally out of certain historical conditions, that on the whole they have promoted life, and that no one can be the most effective social servant who needlessly antagonizes them, and hence he freely and spontaneously conforms to them as to creations of his own will.

Political institutions.—Nor is the case different with political institutions. "Rulers are not a terror to good works but to evil." Laws, police regulations, fire department rulings, may sometimes work injury, but on the whole they express the best interests of the average citizen. Hence the loyal man will regard them as expressions of his own will. He will gladly endure his private inconvenience, and will still decree that the law shall hold universally — for himself as well as for others. Through this voluntary acceptance — even this deliberate willing — of the law he will rob it of its mastery over him, and will remain at the center of his life the master pilot of his destiny. He will be able to say with the Psalmist, "I delight to do thy will, O God, yea, thy law is hid in my heart."

Example of Socrates. — We have a beautiful illustration of just this sort of thing from the life of Socrates. After

this great Athenian had been unjustly condemned to death, and while he was awaiting in prison his execution, his friend, Crito, tried to induce him to escape. Crito, who was rich, had arranged to bribe the jailer, and the condemned philosopher could easily have taken advantage of the opportunity to save his life. But Socrates refused to do violence to the laws of his own city and gave, according to Plato, the following reasons :

If while we were preparing to run away, or by whatever name we should call it, the laws and commonwealth should come and, presenting themselves before us, should say : " Tell me, Socrates, what do you propose doing? Do you design anything else by this procedure in which you are engaged than to destroy us, the laws, and the whole city, so far as you are able? Or do you think it possible for that city any longer to subsist, and not be subverted, in which judgments that are passed have no force, but are set aside and destroyed by private persons? . . . "

What then if the laws should say, " Socrates, was it not agreed between us that you should abide by the judgments which the city should pronounce? . . . Did we not first give you being? And did not your father, through us, take your mother to wife and beget you? Say, then, do you find fault with those laws among us that relate to marriage as being bad? " I should say, " I do not find fault with them. " " Do you with those which relate to your nurture when born, and the education with which you were instructed? Or did not the laws, ordained on this point, enjoin rightly in requiring your father to instruct you in music and gymnastics? " I should say rightly. " Well, then, since you were born, nurtured, and educated through our means, can you say, first of all, that you are not both our offspring and our slave, as well you as your ancestors? And if this be so do you think that there are equal rights between us? . . . so that if we attempt to destroy you, thinking it to be just, you also should endeavor, so far as you are able, in return, to destroy us, the laws and your country; and in doing this will you say that you act justly — you who in reality make virtue your chief object. . . . To offer violence to one's father or mother is not holy, much less to one's country. . . .

Any one who is not satisfied with us may take his property and go wherever he pleases. . . . But whoever continues with us

after he has seen the manner in which we administer justice, and in other respects govern the city, we now say that he has in fact entered into a compact with us to do what we order; and we affirm that he who does not obey is in three respects guilty of injustice — because he does not obey us who gave him being, and because he does not obey us who nurtured him, and because, having made a compact that he would obey us, he neither does so nor does he persuade us if we do anything wrongly; though we propose for his consideration, and do not rigidly command him, to do what we order, but leave him the choice of one of two things, either to persuade us, or to do what we require, and yet he does neither of these. . . .

These things, my dear friend, Crito, be assured, I seem to hear as the votaries of Cybele seem to hear the flutes. And the sounds of these words boom in my ear, and make me incapable of hearing anything else.

Interdependence of individual and group. — *The school.* — Indeed no institution can be strong except as it is made up of such loyal, self-impelled, and self-oriented individuals. A school in which the students stay in line merely because they are compelled by school authorities to do so never makes a vigorous, healthy school. No matter how excellent its equipment or how large its student body it remains weak, superficial, hollow. A school is strong only when its students become so saturated with the spirit of loyalty that the dignity of their institution so effectively and so constantly haunts them as to inhibit any conduct incongruent with its welfare. Such loyalty needs no rules. It finds adequate methods of expressing itself upon each occasion as it arises.

The state. — Similarly a state can be strong only when its citizens have caught, and spontaneously express, its better spirit. It can never be made such by a police force, however watchful. A democracy particularly is dependent upon the law being hid in the hearts of its citizens. Our state can never be safe until our citizens feel that its laws and institutions are not something external, which "they" (that is others) are responsible for carrying out, but the expression

of their own wills, and until they feel personally as deeply hurt at any injury done their state as, according to Cicero, did certain stalwart Romans. "That very distinguished man," he says, "Publius Scipio, the Pontifex Maximus, while he was yet a private citizen, killed Tiberius Gracchus, though he was only moderately disturbing the stability of the state."

The Athenians' oath.—In old Athens every boy, when he took upon himself the obligations of citizenship, took this significant oath :

We will never bring disgrace to this our city, by any act of dishonesty or cowardice, nor ever desert our comrades. We will fight for the ideals and sacred things of the city, both alone and with many; we will revere and obey the city laws; and do our best to incite a like respect and reverence in others; we will strive unceasingly to quicken the public sense of duty, that thus in all these ways we may transmit this city, greater, better, and more beautiful than it was transmitted to us.

What makes a state?—A state is made, not by its rulers, but by its private citizens. With them it stands or falls. Lincoln, when replying to an address of welcome, once said :

In all trying positions in which I shall be placed, and doubtless I shall be placed in many such, my reliance will be upon you, people of the United States; and I wish you to remember, now and forever, that it is your business and not mine; that if the Union of these States and the liberties of this people shall be lost, it is a little to any one man of fifty-two years of age, but a great deal to the thirty millions of people who inhabit these United States, and to their posterity in all coming time. It is your business to maintain and preserve the Union and liberty for yourselves and not for me. I appeal to you again to constantly bear in mind that not I, but you, politicians, not with presidents, not with office seekers, but you, is the question: Shall the Union and shall the liberties of this country be preserved to the latest generation?

This same truth has been forcefully expressed by many of our poets :

What constitutes a state?
 Not high raised battlements or labored mound,
 Thick wall or moated gate;
 Not cities proud, with spires and turrets crowned;
 Not bays and broad armed ports,
 Where, laughing at the storm, rich navies ride;
 Not starred and spangled courts,
 Where low-born baseness wafts perfume to pride.

No! *Men* — high-minded *men* —
 With powers as far above dull brutes endued,
 In forest, brake, or den,
 As beasts excel cold rocks and brambles rude;
 Men, who their duties know,
 But know their rights, and, knowing, dare maintain;
 Prevent the long aimed blow,
 And crush the tyrant while they rend the chain.

These constitute a state;
 And Sovereign Law, that state's collective will,
 O'er thrones and globes elate
 Sits empress, crowning good, repressing ill. . . .

Value of solidarity mutual. — And this value of solidarity, of loyal coöperation, holds not only of the state but of every other group as well — educational, industrial, social, political, military. Nor is the advantage solely on the side of the group. The profit is mutual, for, as it is true that a group can be strong only as its members are strong and united, so it is also true that the individual can find his strength only by joining himself to groups of his fellows. To be a whole he must join a whole. It is true that he thus becomes a spoke in a wheel, but, as Royce remarks, his alternative is to be a spoke out of a wheel, which is infinitely worse. Kipling says :

When crew and captain understand each other to the core,
 It takes a gale and more than a gale to put their ship ashore;
 For one will do what the other commands, although they are chilled
 to the bone,
 And both together can live through weather that neither can face
 alone.

And elsewhere this same poet sings :

Now this is the law of the jungle,
And this law runneth forward and back,
That the strength of the pack is the wolf,
And the strength of the wolf is the pack.

All work dignified. — The fact that it requires a coöperating group to constitute a whole makes it true that all work done in the same spirit of loyalty is of equal dignity. A strange bit of snobbishness has got hold of society and has induced men to look upon certain work as dignified and others as menial. But it would be ordinarily just as impossible for the professional man to do the work of the laborer as for the latter to do that of the former. It has required long and patient training to acquire skill in the one, just as it has in the other. Some time ago I stood and watched a young carpenter laying down quarter-round in a house. He was fitting it together with such perfect joints that it was almost impossible to detect them, even when one knew where they were. And as I watched him I was convinced that the ability to do what he could do was no less enviable than my ability to conduct a school and to write a few scribes of psychology.

Men dignify their callings. — It may be that, as a class, persons engaged in certain callings are characterized by a better spirit than those in other callings, but that is not the result of the callings, but of the men themselves. They have dignified their callings by their own attitude, and there is no reason why persons in other vocations should not equally dignify theirs. Marden advises :

If your vocation be only a humble one, elevate it with more manhood than others put into it. Put into it brains and heart and energy and economy. Broaden it by originality of methods. Extend it by enterprise and industry. Study it as you would a profession. Learn everything that is to be known about it. Concentrate your faculties upon it, for the greatest achievements are reserved for the man of single aim, in whom no rival powers divide the empire of the soul. *Better adorn your own than seek another's place.*

In the same vein Emerson writes :

We like only such actions as have already long had the praise of men, and do not perceive that anything man can do may be divinely done. We think greatness entailed or organized in some places or duties, in certain offices and occasions, and do not see that Paganini can extract rapture from a catgut, and Eulenstein from a jews-harp, and a nimble-fingered lad out of shreds of paper with his scissors, and Landseer out of swine, and a hero out of the pitiful habitation and company in which he was hidden. What we call obscure condition or vulgar society is that condition and society whose poetry is not yet written, but which you shall presently make as enviable and renowned as any. Accept your genius and say what you think. . . . To make habitually a new estimate — that is elevation.

Each has own post. — Certainly no work is of itself undignified if it is socially necessary. Society would suffer just as truly without one bit of it as without another. Each man has his own post to guard, or his part of the line to advance, and a break in the lines at one point may be just as fatal as at another.

The mountain and the squirrel
Had a quarrel,
And the former called the latter "Little Prig";
Bun replied
"You are doubtless very big;
But all sorts of things and weather
Must be taken in together
To make up a year
And a sphere.
And I think it no disgrace
To occupy my place.
If I'm not so big as you,
You are not so small as I,
And not half so spry.
I'll not deny you make
A very pretty squirrel track.
Talents differ; all is well and wisely put;
If I can not carry forests on my back,
Neither can you crack a nut."

Loyal man called by need. — In fact the loyal man will not choose his work on the basis of its attractiveness. He will be called rather by its necessity, and the very fact that others shun it and tend to leave it unperformed will make it so much the more attractive to him. There is no challenge from what every man is willing to do. It calls for no heroism to undertake that. One can not make his life *uniquely* significant by doing a job that others could and would duplicate. His challenge is rather from that job that, apart from him, would be left undone, and that would thus leave a gap in God's world. This may, indeed, be a job too big for any one else to handle, but it is more likely to be one which others spurn — one where a man must work unknown and unappreciated — one where one must live and die a dog's life — but where yet the service rendered is indispensable. But the loyal man will stand in this but-for-him forsaken gap, and perform the work with a quiet, uncomplaining dignity, conscious that no task is small that is blessed of God.

Suppose the little cowslip
Should hang its golden cup,
And say, "I'm such a tiny flower,
I'd better not grow up";
How many a weary traveler
Would miss its fragrant smell!
How many a little child would grieve
To lose it from the dell!

Suppose the glistening dewdrop
Upon the grass should say,
"What can a little dewdrop do?
I'd better roll away";
The blade on which it rested,
Before the day was done,
Without a drop to moisten it,
Would wither in the sun.

Suppose the little breezes,
Upon a summer's day,
Should think themselves too slight to cool
The traveler on his way;
Who would not miss the smallest
And softest ones that blow,
And think they made a great mistake
If they were acting so?

Like rills from the mountain together that run,
And make the broad river below;
So each little life, and the work of each one
To one common current shall flow;
And down on its bosom, like ships on the tide,
The hopes of mankind shall move on;
Nor in vain have we lived, nor in vain have we died,
If we live in the work we have done.

EXERCISES

1. Does loyalty require a boy to support his chum when in conflict with his school or his state? Is loyalty given to individuals or to more general causes? Why?

2. Is it true that the loyal man wins a kind of victory even in defeat? Would you exchange objective success for the joy of serving in a just but losing cause? In what sense was the death of Jesus and of Socrates a stimulus to the work for which they stood?

3. Show how one can be a more virile member of a school, or of a state, by working with the authorities rather than against them. How does student government apply to this?

4. Think over some laws or social customs, and consider whether you would have them different. Is it true that they can be accepted as expressions of your own rational will?

5. Was the attitude of Socrates right?

6. Is it true that the really loyal group needs no rules? Illustrate.

7. When a new cinder walk is laid, people walk alongside of it rather than on it. Yet, if it is to be speedily made usable, it must be walked on. What will the loyal man do? Why?

8. Is it true that a man gains more than he loses by "attach-

ing himself to a whole"? Test this out by considering requirements for success in politics, social reform, industry, science, etc.

9. Can you point to a kind of work that is socially useful, in itself, menial? Could the loyal man get for it a new estimate? Find examples.

10. How will the loyal man choose his task? Illustrate.

CHAPTER XXVI

CHOOSING A VOCATION

Individual differences and specialization in work. — The modern industrial world, in which one must take his place as worker, is amazingly complex. No one man can any longer cover its whole range. He must be a specialist. He must fit himself into some particular little niche in the general industrial machine. Now if people were all alike, a vocation could properly be entered merely at haphazard, for every one could equally succeed in any post, but this condition is by no means a fact. Both psychological experiment and common observation prove that individuals do differ and differ profoundly in their qualities. None of them are good all around, and probably none of them are bad in every respect, but each has his own peculiar strength. According to Emerson, "The crowning fortune of a man is to be born to some pursuit which finds him in employment and happiness, whether it be to make baskets, or broad swords, or canals, or statues, or songs."

Artemus Ward says :

Every one has got a fort. It's some men's fort to do one thing, and some other men's fort to do another, while ther are numeris shiftless critters goin' round loose whose fort is not to do nothin'.

Twice I've endeavored to do things which they wasn't my fort. The first time was when I undertook to lick a owdashus cuss who cut a hole in my tent and krawled threw. Sez I, "My gentle sir, go out or I shall fall onto you putty hevvy." Sez he, "Wade in ole Wax Figgers," whereupon I went for him, but he cawt me powerful on the hed and knocht me threw the tent into a cow pastur. He pursood the attack and flung me into a mud puddle. As I arose

and rung out my dreucht garmints, I concluded fitin' wasn't my fort. I'll now rize the curtain on scene 2nd. . . . I thought I'd hist in a few swallers of suthin' strengthenin'. Konsequents was I histed in so much I didn't zactly know whereabouts I was. . . . I then bet I could play hoss. So I hitched myself to a kanawl bote, there bein' two other hosses behind and another ahead of me. But the hosses bein unused to such a arrangemunt, begun to kick and squeal and rair up. . . . I was rescood, and as I was bein carried to the tavern on a hemlock bored I sed in a feeble voice "Boys, playin' hoss isn't my fort."

Moral: Never don't do nothin' which isn't your fort, for if you do you'll find yourself splashin' round in the kanawl, figgeratively speakin'.

Maladjustment. — "No man," says Bulwer, "struggles perpetually and victoriously against his own character; and one of the first principles of success in life is so to regulate our career as rather to turn our physical constitution and natural inclinations to good account than to endeavor to counteract the one or oppose the other." "Civilization," remarks Marden, "will mark its highest tide when every man has chosen his proper work. No man can be ideally successful until he has found his place. Like a locomotive he is strong on the track, but weak anywhere else." "Like a boat on a river," says Emerson, "every boy runs against obstructions on every side but one. On that side all obstruction is taken away, and he sweeps serenely over a deepening channel into an infinite sea." "Whatever you are by nature," Sydney Smith advises, "keep to it; be what nature intended you for and you will succeed; be anything else and you will be ten thousand times worse than nothing."

Vocational misfits. — In consequence of disregarding this evident provision of nature, and choosing according to some artificial standard, scores of men are out of place, and are at least relatively failing in consequence. Marden tells us that:

Half the world seems to have found uncongenial occupation as though the human race had been shaken up together and had ex-

changed places in the operation. A servant girl is trying to teach, and a natural teacher is tending store. Good farmers are murdering the law, while Choates and Websters are running down farms, each tortured by the consciousness of unfulfilled destiny. Boys are pining in factories who should be wrestling with Greek and Latin, and hundreds are chafing beneath unnatural loads in college who should be on the farm or before the mast. Artists are spreading "daubs" on canvas who should be whitewashing board fences. Behind counters stand clerks who hate the yardstick and neglect their work to dream of other occupations. A good shoemaker writes a few verses for the village paper, his friends call him a poet, and the last, with which he is familiar, is abandoned for the pen, which he uses awkwardly. Other shoemakers are cobbling in Congress, while statesmen are pounding shoe-lasts. Laymen are murdering sermons while Beechers and Whitefields are failing as merchants, and people are wondering what can be the cause of empty pews. A boy who is already making something with tools is railroaded through the university and started on the road to inferiority in one of the three honorable professions. Real surgeons are handling the meatsaw and cleaver, while butchers are amputating human limbs.

Misfits avoidable. — And yet men and women who are miserable failures in one place could have been happy and successful in their proper places. Professor Muensterberg, who has made an elaborate study of the matter, says :

I frequently received the assurance that whenever an industrious energetic man is unsuccessful in one kind of work, a trial is made with him in another department, and that by such shifting the right place can often be found for him. Young people to whom, in spite of long trial and the best will, it seems impossible to supply certain automatic machines, become excellent workers at much more difficult labor in the same establishment. Women who are apparently careless and inattentive when they have to distribute their attention over a number of operations do high class work when they are engaged in a single activity ; and in other cases the opposite is reported.

I may mention a few concrete chance illustrations. In a pencil factory the women in one department have to grasp with one movement a dozen pencils, no more and no less. Some learn this at once without effort, and they earn high wages ; others

never can learn it in spite of repeated trials. If those who fail in this department are transferred for instance to the department where the gold leaf is carefully to be applied to the pencils before stamping, very often they show great fitness in spite of the extreme exactitude needed for this work. . . . It has been found that the most rapid and accurate girls at sorting are not seldom useless on the machines. They press the wrong keys and make errors in copying the totals from the machine indicators to the file cards. On the other hand some of the best machine operators are very slow and inaccurate at the sorting table. Girls have been found very poor at the work at which they were first set, and very successful and efficient as soon as they had been transferred from the one to the other.

Hope for all. — There is, in fact, no one who, if he will find his place and then put energy into his work, can not succeed. He need not be discouraged, no matter how miserable his failure in his previous efforts. There is only one cause for general failure, and that is laziness, lack of ambition, absence of backbone. Says Marden again :

The world has been very kind to many who were once known as dunces or blockheads, after they have become very successful; but it was very cross to them while they were struggling through discouragement and misinterpretation. Give every boy and girl a fair chance and reasonable encouragement, and do not condemn them because of even a large degree of downright stupidity; for many so-called good-for-nothing boys, blockheads, numskulls, dullards, or dunces were only boys out of their places, round boys forced into square holes.

Wellington was considered a dunce by his mother. . . . Goldsmith was the laughing stock of his schoolmasters. . . . Robert Clive bore the name of "dunce" and "reprobate at school." . . . Young Linnæus was called by his teachers almost a blockhead. . . . Richard B. Sheridan's mother tried in vain to teach him the most elementary studies. . . . Samuel Drew was one of the dullest and most listless boys of his neighborhood.

. . . If you fail after doing your level best, examine the work attempted and see if it really be in the line of your bent or power of achievement. Cowper failed as a lawyer. He was so timid that he could not plead a case, but he wrote some of our

finest poems. Molière found that he was not adapted to the work of a lawyer, but he left a great name in literature. Voltaire and Petrarch abandoned the law, the former choosing philosophy, the latter, poetry. Cromwell was a farmer until forty years old. . . .

If instinct and heart ask for carpentry, be a carpenter; if for medicine, be a physician. With a firm choice and earnest work a young man or woman can not help but succeed. But if there be no instinct, or if it be weak or faint, one should choose cautiously along the line of his best adaptability and opportunity. No one need doubt that the world has use for him. True success lies in acting well your part, and this every one can do. Better be a first-rate hod carrier than a second-rate anything.

Talent as basis of choice. — So in choosing a profession the main thing to consider is one's talent for it. Other minor considerations must, of course, enter, of which we shall take account later, but first of all comes the question of natural adaptation. One should never make the mistake of choosing a supposedly "honorable" profession merely for the social prestige which it carries. For, if our conclusion of last chapter was correct, all real service is equally honorable, and one must dignify his work by his own attitude toward it. One can be much more respectable, indeed, as a first-class carpenter than as a bungling clergyman or an inefficient physician. Out of his place he will be continually humiliated. Instead of sharing in the dignity of his profession he will be the laughing stock alike of his colleagues and of the public. But, if he chooses that for which nature has fitted him, he can win respect in the performance of his work, no matter what its character.

Determination of vocational talents. — But to find what one is best fitted for is far from a simple task. It is the most difficult task with which any young man or woman is confronted. For the youth is as yet undeveloped, and none of his powers seem to stand out with marked prominence. The various vocations all seem to demand talents beyond his command. Yet it is important that he choose,

and well that he should choose at least tentatively early in his teens, so that his training may point toward his future work.

Advice of parents and friends. — In making choice one can avail himself of various aids. The first of these is advice of parents, friends, and teachers. These can judge one more dispassionately and impersonally than one can judge oneself. Yet this advice can not be taken as final, for it has often been seriously mistaken. This is the more true in proportion as the adviser is closer to one, and hence more blinded by prejudice. Advice from teachers is probably most balanced and impersonal, and therefore most dependable, while that of parents, on account of their personal ambitions for their child and their proverbial blindness to his weakness, is least so.

Everywhere there are to be found sad misfits due to errors of parents in trying to force children into vocations for which they were not adapted. According to Marden,

Ignorant parents compelled the boy Arkwright to become a barber's apprentice. . . . Galileo was set apart as a physician. . . . The parents of Michael Angelo had declared that no son of theirs should ever follow the discreditable profession of an artist, and even punished him for covering the walls and furniture with sketches. . . . Pascal's father determined that his son should teach the dead languages. . . . The father of Joshua Reynolds rebuked his son for drawing pictures. . . . Turner was intended for a barber. . . . Claude Lorrain was apprenticed to a pastry cook; Molière, the author, to an upholsterer; and Guido Reni, the famous painter of Aurora, was sent to a music school. . . . Schiller was sent to study surgery in the military school at Stuttgart. . . . The physician Handel wished his son to become a lawyer, and so tried to discourage his fondness for music.

Yet in all of these cases the parental wishes were radically wrong, and the boys found their way into the professions in which they became famous in spite of this misplaced opposition.

Personal inclination. — Another factor to which attention should be given is one's personal inclination. What one loves he will work at enthusiastically; that in which one takes no delight he can not easily do otherwise than mechanically.

If a man is in his place he is joyous, cheerful, happy. The days are all too short for him. All his powers give their consent to his work, say "yes" to his occupation. He is a man, he respects himself, and is happy because all his powers are at play in their natural sphere. There is no compromising of his faculties; no cramping of legal acumen upon the farm; no suppression of forensic oratorical powers at the shoemaker's bench; no stifling of exuberance of physical strength, of visions of golden crops, and blooded cattle, and the loved country life in the clergyman's study, composing sermons to put a congregation to sleep.

But, although inclination is on the whole indicative of natural fitness for the work in question, it is not to be wholly trusted. For very frequently, on the one hand, it is connected with an entire ignorance of the demands of the work, and, on the other, is influenced powerfully by suggestion. On this Professor Muensterberg says:

A mere interest for one or another subject in school is influenced by many accidental circumstances, by the personality of the teacher or the methods of instruction, by suggestions of surroundings and by home traditions, and accordingly even such a preference gives rather slight final indication of the individual mental qualities. Moreover, such mere inclinations and interests can not determine the true psychological fitness for a vocation. To choose a crude illustration, a boy may think with passion of the vocation of a sailor, and yet may be entirely unfit for it because his mind lacks the ability to discriminate between red and green. He himself may never have discovered that he is color-blind, but when he is ready to turn to the sailor's calling, the examination of his color-sensitiveness which is demanded may have shown the disturbing mental deficiency. Similar defects may exist in a boy's attention or memory, judgment or feeling, thought or imagination, suggestibility or emotion, and they may remain just as undiscovered as the defect of color-blindness, which is

characteristic of four per cent of the male population. All such deficiencies may be dangerous in particular callings. But while the vocation of the ship officer is fortunately protected nowadays by such a special psychological examination, most other vocations are unguarded against the entrance of mentally unfit individuals.

One can trust one's inclination only after a certain amount of experience with the work in question. This is the value of a manual training course as far as the industries are concerned. Such course does not fit one for any particular vocation, but it gives him a certain amount of experience in connection with a considerable number of fields. He works a few weeks at carpentry, a few at sheet-metal work, a few at blacksmithing, etc., and thus can find and test out his interests and aptitudes if they lie in any of these directions. In evenings or Saturdays, and during the summer months, too, one can get employment either in, or closely related to, his chosen vocation, and can thus assure himself whether or not he is fitted for it.

Drifting. — Another method of finding one's vocation is to drift into it. One takes just what happens, at the time, to be open, and, before he knows it, is confirmed in this as his life's work. Unfortunately this is probably the usual way, but it is certainly the worst. It is due to this unscientific manner of getting into one's work that there are so many and such serious misfits.

Scientific guidance. — The most reliable way of choosing a vocation is one not yet very fully developed — namely through *scientific* vocational guidance. In its less developed form this takes the shape of a study of the qualities of the future worker by responses to a large number of specific questions put to him, to his acquaintances, and to his teachers, and a comparison of the qualities thus revealed with those required in the various vocations. A number of school systems have developed rather fully such system of scientific vocational guidance for their schools, and doubtless the

future will see much more accomplished along this line. In its more developed form this scientific guidance takes the shape of the study of personal qualities in the psychological laboratory. The late Professor Hugo Muensterberg, of Harvard University, worked this field extensively and with marked success, and every student of the subject should read his "Psychology and Industrial Efficiency," "Business Psychology," and "Psychology and Social Sanity." As an indication of his method of finding what persons are adapted, and what ones are not adapted, to a given vocation, just one example will be given — his test for telephone operators.

He subjected candidates for the telephone service to six different tests. In the first of these he read to them numbers, with a gradually increasing number of digits, which they were required to write down immediately after they had been announced, just as they would find and insert a plug in the proper hole in the switchboard after a number had been called. Next, as a test of accuracy of perception and also as a check on fatigue, they were each given a newspaper and required to strike out rapidly all the a's. Again, they were given twenty-four pairs of words, those in each pair being definitely related, and were tested as to the readiness with which they could recall the one when the other was announced. After these group experiments they were taken into a room, one by one, and put through three individual tests. In the first of these they were given forty-eight cards of four different kinds, and were required to sort them into four piles as rapidly as possible. In the second they were given a pencil, and a piece of squared paper containing small crosses, and were required to reach out and touch these squares with the pencil, and to do so in rhythm with a metronome, the purpose being to see how accurately they could reach to a required spot. Finally, as a test of general intelligence, six words, like *book*, *house*, and *rain*, were announced to them, and they were required to give

the first word that came into mind, the time required for this association being measured with a stop watch. The results of these experiments Professor Muensterberg worked up, and on their basis predicted who would probably succeed and who would fail as telephone operators. When, several months later, the results were compared with the professor's predictions, it was found that the predictions had been remarkably accurate. Those persons who had stood highest in the test had, in the meantime, proved so efficient as to have been made teachers in the training of operators, while those who stood lowest had been found inefficient and been discharged. Professor Muensterberg also made similar tests in connection with the electric railway service, the ship service, and other fields, and the results of his efforts are extremely promising. It is not at all improbable that such scientific guidance may be the rule in the future.

Choice from social viewpoint. — At any rate it is in such spirit that one should choose his vocation. The criterion should be solely what he can do best, not what his father or friends have sufficient "pull" to get him started in. Says Marden :

The best way to choose a vocation is to ask yourself the question, "What would my government do with me if it were to consider scientifically my qualifications and adaptations, and place me to the best possible advantage for all the people?" The Norwegian precept is a good one: "Give thyself wholly to thy fellow men; they will give thee back soon enough." We can do the most possible for ourselves when we are in a position where we can do the most possible for others. We are doing the most for ourselves and for others when we are in a position which calls into play, in the highest possible way, the greatest number of our best faculties; in other words, we are succeeding best for ourselves when we are succeeding best for others.

Financial resources. — However, under our present industrial conditions one's ability to prepare himself for the occupation in question must be considered as well as

natural fitness for the work. Many vocations require college graduation or elaborate professional training for admission, while others demand considerable working capital for anything like reasonable prospect of success. This not every person can command. To prepare for medicine requires from five to eight years beyond the high school, and an outlay of from two to four or five thousand dollars at the least. Besides, one must have at command sufficient outside income to support himself largely during the first few years of his practice, as his income from his profession is usually a mere pittance during the first few years. Hence, to justify one's choosing medicine as a profession, one must have available funds amounting to at least from three to six or eight thousand dollars. The same thing is true of law, and, to a somewhat less extent, of practically all the other professions. If one has sufficient backbone he can earn a part of this money as he goes along, and in rare cases all of it has been earned. If one has already *proved* his ability to earn at least half of the expense he may be safe in borrowing the other half, as the energy and frugality which enable him to earn large sums during vacation indicate that he probably will be sufficiently successful in his vocation to enable him to repay the loan. But one who is not sufficiently ambitious and energetic to earn money while in school should not borrow large sums, as the income from the already crowded professions is not sufficient to enable one to repay a large loan, at least not without much greater sacrifice than that involved in earning a part of the money while yet in school. But at the best one's financial strength must be a factor in deciding what shall be his vocation.

Other points to consider. — Other factors which must count for something are the environment in which one is reared, with its particular forms of employment, the relative demand for workers in the various fields, and the hygienic conditions incident to the various callings. One can

now get books on the nature of, and the opportunities in, the various occupations, and one can also learn much from personal inquiry. No one should neglect to take advantage of these means of information before definitely choosing his work. Among the points about which he should inquire are the following :

1. The breadth of the field.
2. The training necessary.
 - (a) Time required.
 - (b) Cost of training.
 - (c) Where and how it can be got.
3. The capital required.
4. The remuneration.
5. Opportunities for advancement.
6. Is the field overcrowded?
7. Its effect upon health.
8. How to get employment.
9. Congenial features.
10. Uncongenial features.

Clinging to decision. — The choice of a profession is, then, a serious matter, and should be made very thoughtfully. But once made, one should no longer waver, but press courageously forward and make himself fit for the work by training and persistence. There may, of course, be cases where one is justified in changing after he has launched in his vocation, but such changes are always costly, and the occasions where the loss is not at least as great as the gain are rare. When one has once made his choice he has committed himself, so that he has no longer the same freedom that he once had. To hold back and further parry after he has once cut loose the anchor is to weaken himself. He will almost certainly find uncongenial elements which he had not anticipated, but these do not necessarily indicate that he has missed his calling. Every vocation has its difficulties and discouragements, which the successful worker *must* courageously meet if he would make his life count.

To wander from one vocation to another as soon as snags are encountered is to waste one's life. Marden says:

After once choosing your occupation, never look backward; stick to it with all the tenacity you can muster. Let nothing tempt you or swerve you a hair's breadth from your aim, and you will win. Do not let the thorns which appear in every vocation, or temporary despondency or disappointment, shake your purpose. You will never succeed while smarting under the drudgery of your occupation, if you are constantly haunted with the idea that you could succeed better in something else. Great tenacity of purpose is the only thing that will carry you over the hard places which appear in every career to ultimate triumph. . . .

Thousands of men who have been failures in life have done drudgery enough in half a dozen different occupations to have enabled them to reach great success, if their efforts had all been expended in one direction. That mechanic is a failure who starts out to build an engine, but does not *quite* accomplish it, and shifts into some other occupation where perhaps he will almost succeed, but stops just short of the point of proficiency in his acquisition and so fails again. The world is full of people who are almost a success. They stop just this side of success. Their courage oozes out just before they become expert. How many of us have acquisitions which remain permanently unavailable because not carried quite to the point of skill? How many people "almost know a language or two," which they can neither write nor speak; a science or two, whose elements they have not quite acquired; an art or two partially mastered, but which they can not practice with satisfaction or profit! The habit of desultoriness, which has been acquired by allowing yourself to abandon a half-finished work, more than balances any little skill gained in one vocation which might possibly be of use later.

EXERCISES

1. Is the doctrine that "Every one has got a fort" exaggerated in the text?
2. If a father owns a factory or a store and has a good opening in it, should he put his son into the job? Should he give his own son any different sort of consideration from that which he gives to any one else? Why?
3. To what extent should one, in choosing his life's work,

consider the effect of a vocation upon health? Upon personal development? Why?

4. Why is inclination alone not a sufficient test in choosing a vocation?

5. What is meant by a job's being "open at the top"? Is, or is not, every job thus open at the top? Can an ambitious youth afford to take one that is not?

6. How early, do you think, should one begin to consider his vocation? Why? Will this early choice be a specific one or will it only narrow the range of future choice? How?

7. Discuss the desirability and the practicability of trying out, on Saturdays and during vacations, a vocation to which you believe you are called. Cite experiences of persons of your acquaintance who have done this.

8. To what extent is the author right in saying that, in choosing a vocation which requires expensive training in preparation, one must consider his financial resources? Can one earn one's way through college as he goes? What are the advantages, and what the disadvantages, of attempting to do so?

9. What do you think of the advisability of changing one's vocation after one has once launched upon it?

10. Can one give, as an acceptable excuse for flabby work, that he is in the wrong job? Why, or why not?

11. Have you decided yet upon your own vocation? Have you seriously considered it? If not, why not?

12. What use is made of psychological tests in the army for placing men in that branch of the service for which they are best fitted?

CHAPTER XXVII

IN THE VALLEYS — THE PSYCHOLOGY OF PERIODS OF DISCOURAGEMENT

Development irregular. — In our chapter on Character and Will we had occasion to emphasize the continuity of development. We said that growth had to be an unbroken progress — that one is obliged to mount step by step. The application of this principle to our doctrine of strength and individuality through work, for which we have contended in our last chapters, would seem to involve that one should choose his line of work and through it grow progressively into a more complete embodiment of his ideals. But we must now make a certain qualification of that simple doctrine, for life is really more tragic than our simple formulation would indicate. The qualification we may let Professor Ames state :

Gradual growth is not to be conceived as an absolutely regular movement, advancing always with the same measured increment. None of the processes of nature conform strictly to that conception. On the contrary there are in all biological growth rhythm, periodicity, epochal moments, and level planes. Even shocks and crises occur. This is true of the highest forms of human development. The intellectual and the æsthetic life, the attainment of skill in any technique of a spiritual as of a practical character involve some vibration of interest, some pulsation of attention and emotion.

In our travels onward, that is, we must pass through the valleys as well as over the mountain tops ; we must be content to struggle on with our view shut in by the rocks and trees and dreary hillsides as well as to get occasionally a

noble and inspiring outlook from the summit of a commanding peak. Dropping metaphor, we must often work wearily on with the discouraging sense that we are making little or no progress, and only now and then experience the keen joy of rapid and evident advances.

Plateaus in the formation of habits. — This phenomenon of rhythmic growth has been most fully studied in the case of the formation of motor habits. Here it is found that periods of more or less rapid progress alternate with periods of apparent standstill. In typewriting, for example, Professor Bryant, Professor Book, and others found that one seems at first to be making little progress. Then suddenly the difficulties which confront one appear to break, and one is elated to find himself moving rapidly forward. But after a short period of evident progress he is again halted and, practice faithfully as he please, he seems unable to improve. But if he only continue to faithfully practice during this discouraging level in his development the difficulties will again at length break, and he will enjoy another period of rapid elevation. If we represent the progress of the learner by a graph, a typical one would run something like this:

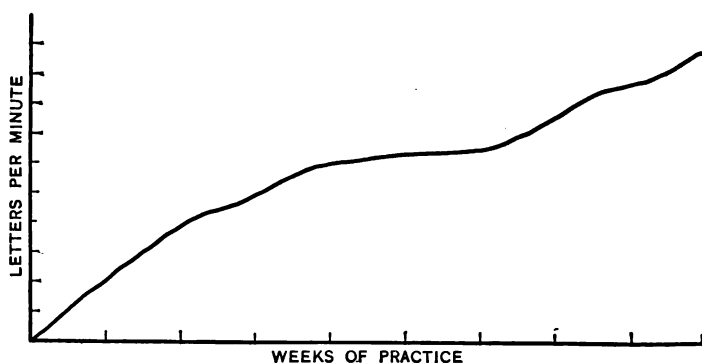


FIG. 30. Approximate curve of practice in telegraph receiving. (From Thorndike's *Educational Psychology, Briefer Course*.)

It would have, as you see, certain level places (called plateaus), interspersed between periods of relatively rapid rise.

Swift on learning curves.—Professor Swift found the same thing true of learning to toss a ball. He says:

All the curves show great irregularity of advance. Progress is never uniform, but always by jumps. The learner seems to make no gain for several days, or even longer, then he takes a leap, perhaps to get a good grip and stay, or may be to drop back a little. But if he loses his hold it is not for long, and he soon makes this higher level his starting point for new excursions. And the same thing is true of intellectual progress. The curve in learning a language is identical in character with that of acquiring a physical habit. Here too progress is never steady, but always by leaps, preceded by longer or shorter periods of apparent cessation of progress. There is a gradual but irregular growth in the intelligibility of the subject matter in hand, while interspersed within the period of general advance are days when uncertainty and confusion dominate. When in the latter condition the learner feels that the whole thing is hopeless. . . . Both teachers and pupils are discouraged because they do not understand that this is one of the characteristics of the learning process. Suddenly, and sometimes without premonition, the difficulties clear up, and the learner leaps forward. Frequently he jumps a little further than his present powers justify, and then he falls back again; but if so it is only for a short time. The sudden advance is the precursor of a general forward movement that is to follow.

Meeting plateaus a common experience.—Every one has experienced these periods of sudden awakening, following upon discouraging periods of confusion. My own insight into philosophy has come to me in flashes, after months of baffled groping. Students have frequently told me that they had worked for months upon algebra and geometry before these subjects cleared up to them, and when they did clear up it was as a sudden, perspicuous revelation. The whole maze of confusion set itself at one stroke into order. Professor Starbuck relates a number of such instances of sudden awakening, from whom we quote:

"A little boy of four years old could not talk; he made queer sounds for different objects. All at once he began to talk and said his words plainly; he could soon say everything he heard." "A little girl I knew well could not sing a note or carry a tune. Suddenly, one day, she came in singing 'Sweet Marie' in sweet clear voice." "I was very anxious to learn to play the piano, and would spend hours at the instrument. One day I suddenly found I could play a little waltz my sister had given me. This incited me to try another piece, and I found I could play that." "I tried to learn to mount and dismount a bicycle until it seemed to me there was no use in trying any more. All at once, one night, I found I could do both easily." "I could not understand subtraction in algebra; I could not even do the examples mechanically, I failed every day in it. Suddenly, one day while working alone, it dawned on me, and since then I have had no trouble. It is the easiest thing in algebra now." "At fourteen I studied mensuration; I thought I never could understand it, and felt quite discouraged. After hearing a pupil recite one day, the power to do it came like a flash, and it became my favorite study."

Importance of the plateau. — Now these periods of apparently no progress — these plateaus in the curve of development — are psychologically as important as the transition periods. It is during them that the new insight won at the breaking period is made thoroughly one's own. For not only must the insight be won, but it must be completely assimilated. These levels, then, are the periods for drill, for action, for application. They are the periods, too, for the collection of the elements of experience which will be set to order in the next period of awakening. One should, therefore, not only welcome these transition periods, but should also make the most of his periods of drag between. He should not allow himself to be discouraged by his apparent stand-still but should work persistently on, confident that his efforts, if serious and faithful, can not help having their effect.

Valleys in emotional life. — This periodicity is even more characteristic of the emotional life. It is impossible to live

on one continuous high level of emotion. The calm, dispassionate life can be even tempered — can be always itself — but the intense life must perforce oscillate from one extreme to another. When you look at a colored object for a while you can see the objective color, but when you look away an image of the same size but of exactly the opposite color looms up before your vision. The chemical processes in your eye, stimulated by the color, are obliged at length to reverse themselves until the eye can be restored to its normal equilibrium. And so it is in general. Whether the cause be the fatigue of the nerve centers and of the muscles involved, necessitating a shift of strain for recuperation, or whatever else it may be, any intense psychical state in time gives way to a counter state. So vivid excitement will be followed by equal depression. The life of lofty mountain tops will also be the life of dismal valleys. Whoever, in a moment of hopefulness, believes that he can ever afterwards live a life of emotional exaltation is certain to be soon sorely disappointed, and whoever, in a time of discouragement, anticipates that his whole career will be thus emotionally depressed will be, if he only waits, agreeably surprised.

Fluctuations in love. — In love, engaging the emotions so strongly as it does, these fluctuations are most notable, and unfortunately most tragic in their consequences. It is an old saying that the course of true love never runs smoothly, and this is correct if by true love is meant intense love. The intense lover oscillates between exalted ardor and depression, between unbounded confidence and mad jealousy. And strangely, when he is in one of these extreme moods, he feels confident that he will remain in it forever, and commits himself to enterprises which it is not in accord with the laws of his nature to sustain. In consequence, the periods of reaction which follow are likely to be disconcerting, and to lead to misunderstandings and to imputations of insincerity. It would be better to acknowledge frankly to oneself that

such relapses are natural and to be expected, and not allow oneself to be disturbed by them.

In his semihumorous way Jerome K. Jerome says on this :

I am afraid, dear Edwin and Angelina, you expect too much from love. You think there is enough of your little hearts to feed this fierce, devouring passion for all your long lives. Ah, young folk! don't rely too much upon that unsteady flicker. It will dwindle and dwindle as the months roll on, and there is no replenishing the fuel. You will watch it die out in anger and disappointment. To each it will seem that it is the other who is growing colder. Edwin sees with bitterness that Angelina no longer runs to the gate to meet him, all smiles and blushes; and when he has a cough now she doesn't begin to cry, and putting her arms around his neck, say that she cannot live without him. The most she will probably do is to suggest a lozenge, and even that in a tone implying that it is the noise more than anything else she is anxious to get rid of.

Poor little Angelina, too, sheds silent tears, for Edwin has given up carrying her old handkerchief in the inside pocket of his waistcoat. Both are astonished at the falling off of the other one, but neither sees their own change. If they did, they would not suffer as they do. They would look for the cause in the right quarter — in the littleness of poor human nature — join hands over their common failing, and start building their house anew on a more earthly and enduring foundation.

Affection. — In love, as in habit formation and intellectual growth, one is, during his physiological and psychological crises, lifted on to a new level, but in the commonplace experiences that follow, this new inspiration, if it is to count for anything, must be built into one's nature by little concrete acts. These plateaus, or valleys if you prefer, in the love curve, are the places for building up a permanent *affection* through little, thoughtful deeds of kindness and practical devotion not necessarily fired with the intensity of ardent passion. Jerome continues :

It is a cheerless hour for you both, when the lamp of love has gone out, and the fire of affection is not yet lit, and you have to

grope about in the cold raw dawn of life to kindle it. God grant it catches light before the day is too far spent. Many sit shivering by the dead coals till night comes. . . . Love is too pure a light to burn long among the noisome gases that we breathe, but before it is choked out we may use it as a torch to ignite the cosy fire of affection.

And, after all, that warming glow is more suited to our cold little back parlor of a world than is the burning spirit of love. Love should be the vestal fire of some mighty temple — some vast dim fane whose organ music is the rolling of the spheres. Affection will burn cheerfully when the white flame of love is flickered out. Affection is a fire that can be fed from day to day, and be piled up ever higher as the wintry years draw nigh. Old men and women can sit by it with their thin hands clasped, the little children can nestle down in front, the friend and neighbor has his welcome corner by its side, and even shaggy Fido and sleek Titty can toast their noses at the bars.

Let us heap the coals of kindness upon that fire. Throw on your pleasant words, your gentle pressures of the hand, your thoughtful and unselfish deeds. Fan it with good-humor, patience, and forbearance. You can let the wind blow and the rain fall unheeded then, for your hearth will be warm and bright, and the faces round it will make sunshine in spite of the clouds within.

Tragedies from despondency. — An overestimation of the significance of a temporarily despondent mood often leads to utterly foolish tragedies. Because they are for the moment hurt, people rashly break precious friendships. Because they are for the time disheartened, men take to drinking or commit other forms of injustice to themselves. Indeed almost every week one can read in the papers even such accounts as the following, clipped from a city paper :

Disappointed at the inability of her mother to take her on a vacation this summer, Miss Mabel Jabes, thirty-four years old, swallowed poison on the porch of her home, 3143 F Street, this morning. She died without regaining consciousness an hour later in the Episcopal Hospital.

* * * * *

Christian Miller, twenty-nine years old, Cedar and Cumberland Streets, attempted suicide at Masquer Street and Susque-

hanna Avenue last night by shooting himself in the head. He is in a critical condition at the St. Mary's Hospital. According to the police Miller has a sweetheart in the West. He received letters from her daily until a few days ago, it is said, when the missives stopped coming. Overcome by despair, he attempted suicide.

Illness, financial loss, injury to reputation, or some other form of discouragement often lead to the same foolish acts. One believes that because for the time the world is dark it will always remain so. Nothing of the sort will prove true. It is physiologically impossible that it should be true. Just as exaltation inevitably in time tones down, so does depression tone up. It is the universal testimony that any sting will in time lose its poignancy. At the very first it makes the background for all consciousness, but after a little while recurs only at intervals, and in time is so faded out as to be no longer a biting sorrow, if it does not become indeed a positively pleasant memory. This is especially true if one plunges into active life and meets the problem by substitution.

Plateaus in moral conduct. — In moral conduct this same tendency toward rhythm is also evident. There are days when all the forces of our nature seem organized for mischief, and there are times when our better nature is in the lead. This is particularly true of the adolescent period — the high school age — when character is in the making and the two types of forces are battling for supremacy. As Professor Starbuck says:

Youth is at the point of development at which it is beset on every side by liabilities of abnormal and pathological extremes. It is the point at which not only geniuses begin to develop, but also criminals; not only persons of greatest spiritual insight, but likewise those of extremest sensuality.

Put good impulses to work. — In this contest between the two forces of our nature Jules Payot advises:

When feeling surges up into consciousness (we are now only concerned with feelings that are favorable to our purpose), we must

seize the occasion to launch our bark. We must take advantage of our good moments as if the voice of God were calling us, to make good resolutions. Whatever may be the accompanying feeling which invades the soul, let us immediately make use of it for our work. Have we heard of the success of a comrade, and has this whipt up our wavering will; if so, then let us get quickly to work! Quick, let us courageously clear out of the way the task which has been tormenting us for the last few days, because we were unable to make up our mind to get right at it and attack it, and also unable to get rid of the idea that we ought to do this, so much that it has worn upon us like remorse. If to-day, after reading this, we feel a sentiment of the dignity and nobility of work, then let us immediately take up our pen! Or, more simply, if we experience this feeling of intellectual and physical vigor that makes work pleasant, then let us get right down to our task. These favorable moments must be used in order to form strong habits, and to taste, in such a way as to preserve the flavor, for as long a time as possible, the manly joys of productive and fruitful work, and the pride of self-mastery.

The feeling, on ebbing away, will have left a beneficent deposit in the form of a stronger habit of work, the memory of the joys which one has experienced, and of energetic resolutions.

Put bad impulses off. — And, on the negative side, guard against rushing rashly into acts out of harmony with your better nature. When your ideals go on a romp, when impulses incongruent with your better nature press for expression, just hold on to the old ropes for a moment. Rather than do something which you may regret, postpone it until just a little later. If it needs to be done, it can be done just as well to-morrow. To-morrow you can approach it with a clearer brain, and can better determine whether or not you really wish to do it. If it is really the right thing to do, it will appear equally right to-morrow; if it is but the product of a temporary mood — a lapse from your better self — to-morrow you will be your better self again. Knowing so much as we now do about the fluctuation of mood, it is a safe rule for us to do to-day what our better impulses prompt us to do, but to postpone until to-morrow, for further reflec-

tion, what we know to be out of harmony with our customary ideals.

Build habits. — And here, too, again use the plateaus in your course for making thoroughly your own the achievements of your mountain-top experiences. Character is not made by your sudden flights of ambition and idealism, nor by avoiding the perpetration of acts incongruent with your ideals, but by the tedious monotony of one little right act after another. Act out what you know to be your ideals, whether or not these are at the moment clothed with emotional warmth. By force of will and of habit keep yourself unswervingly by your post during these dreary periods of emotional and idealistic lethargy. The time will come when you will be your better self again, and when these commonplace activities will be the force to buoy you up upon the crest of a new wave of inspiration.

In my boyhood days on the farm it used to be customary, when a barn was being built, for all the neighbors to get together on a certain day and assist at the "raising" — that is, the fitting into place of the large timbers which made up its major framework. This was a great day in the building — a spectacular day — but those long hours during which these timbers were being prepared and during which the small laths which held these firmly in place, and which finished the structure, were being nailed on, were certainly equally essential. The periods of awakening in growth are like these "raisings" of the barns. They are great periods, inspiring periods, to be welcomed with open heart and made the most of. But, in the nature of the case, they can not come every day, and during the intervals between them it is your business to pick up your hammer and your three-penny nails and tack on the little laths to give stability and value to the proud framework — to do, that is, the little insignificant and even irksome tasks which can grind *these large* ideals into firm and lasting habits.

Religious conversion. — But the most cataclysmic development is in the religious life. It is true that there are some persons whose temperament and training are such that they grow up gradually into the religious life, but in the majority of lives there are pronounced breaking points, preceded by periods of stress and strain. These breaking points are called conversion, and the normal time for them to come is in the adolescent period — between twelve and twenty years of age. In fact the adolescent period is a period of transition in every way. It is the period when physically one changes from childhood to adulthood; socially from a self-centered animal to a creature interested in the welfare of his fellows; ethically from a person directed through external authority by his elders to an individual capable of directing himself; mentally from a formal memorizer to an independent thinker; and religiously from a mere church attendant to a worshiper experiencing the depth of religious emotion. Such rapid and thoroughgoing transition could not help being tragic. Just as the boy is likely to experience “growing pains,” so he is almost sure now to go through periods of emotional storm and stress. And the breaking point in these storm and stress periods — conversion — is the period at which the confusion of his religious world is set in order, just as we have seen, from the above illustrations, one’s intellectual problems may, at certain points, suddenly and unexpectedly clear up.

Time of conversion. — The distribution of conversions as to age has been carefully studied by a number of psychologists, and they all agree that the normal period for it is adolescence. Professor Starbuck, one of the early investigators, sums up the matter in this way:

Conversion does not occur with the same frequency at all periods of life. It belongs almost exclusively to the years between ten and twenty-five. The number of instances outside that range appear few and scattered. That is, conversion is a distinctly

adolescent phenomenon. It is a singular fact also that within this period the conversions do not distribute themselves equally among the years. In the rough we may say that they begin to occur at seven or eight years, and increase in number gradually to ten or eleven, and then rapidly to sixteen; rapidly decline to twenty, and gradually fall away after that, and become rare after thirty. One may say that if conversion has not occurred before twenty, the chances are small that it will ever be experienced.

But our reading is yet too rough. Within adolescence it appears that such awakenings are much more likely to take place at some years than at others, and that the preference of years varies greatly with sex. The event comes earlier, in general, among the females than among the males, most frequently at thirteen and sixteen. Among the males it occurs most often at seventeen, and immediately before and after that year.

Religious interest to be cultivated when ripe. — It is plain, then, that the youth can not afford to turn a deaf ear to the call of religion in his teens. We have earlier seen that any instinct, if inhibited at the critical time, will pass away, but if allowed to function will remain as a habit, and this law is no less true of the religious instinct than of others. If the youth, by staying away from religious influences, or by deliberately hardening himself to them, fights his way through the period of instinctive religious interest without yielding to it, his religious life at a later age will be at the best shallow, if indeed he can ever bring himself to any interest in it whatever. On the other hand if, when the natural interest awakens, he gratifies it in a normal way, and keeps himself during his youth in a healthy religious atmosphere, he will grow up naturally into a strong and wholesome religious life. The period of conversion is to be accepted with the same openness as the periods of rapid elevation and expansion in the process of habit formation and of intellectual progress which we discussed above. It is to be welcomed as one of those rare moments when human nature enables us to open our ears and our hearts to the voice and the presence of God, and to get that bequest of

divine inspiration and revelation which must afford us guidance and momentum in the manifold activities which make up our daily lives.

Crises not to be forced. — But if cataclysmic transitions in the religious life are not to be suppressed, neither are they to be forced. Sudden conversions belong to persons of certain temperaments, but not to others. One of the most important discoveries of modern psychology has been that of the great individual differences between persons. And these differences hold no less of religious experience than of any other phase of life. Yet, unfortunately, religious leaders — especially evangelists — have too often insisted that all men should have just *their* type of experience. Being of an emotional temperament their conversion has usually been of the violent, cataclysmic nature, and they lead young people to believe that they can not enter the religious life except through such eruption. In consequence many a person, anxious to do his part in the Kingdom of God, has been led to force his religious emotions, or even to resort to a certain more or less conscious hypocrisy. As a result his religious nature has suffered infinite harm instead of good, and not a few persons have been alienated from the church throughout life in consequence of such unfortunate affectation.

Of course, every one who enters the Kingdom of God must be born again, must lay aside his selfish animal nature and become a child of God, must face about from that self-centeredness which characterizes his childhood life and unself himself, but whether or not he should do this through one great emotional cataclysm is a matter to be determined wholly by his individual temperament. Professor Ames says :

The differences of temperament pertain largely to susceptibility to suggestion and to automatisms. It is of great importance historically that the apostle Paul and St. Augustine belonged to

the type for which the extreme form of emotional, dramatic conversion is possible. Their personal experience has been regarded as of superior value because it has been assumed uncritically that their moral characters and achievements were determined by the manner of their conversion. But when it is recognized that Paul was probably a neurotic, and that Augustine was a sensualist with a highly developed nervous temperament, it becomes apparent that there were very special individual reasons for their dramatic conversions. It also appears that the forms of their conversions are accidental, and not essential in spiritual development. The attempts to induce that type of experience among all classes of persons have failed, and such failures have proved not the depravity of the recalcitrant, unresponsive persons, but the one-sided and abnormal character of the cases set up as the standard.

Desirability of regular growth. — Certainly the experience of many truly religious men shows that a more gradual type of conversion is no less a true one. Edward Everett Hale, whose experience is paralleled by that related by many other unquestionably religious persons, says of his development :

I observe, with profound regret, the religious struggles which come into many biographies, as if almost essential to the formation of the hero. I ought to speak of these, to say that any man has an advantage, not to be estimated, who is born, as I was, into a family where the religion is simple and rational; who is trained in the theory of such a religion, so that he never knows, for an hour, what these religious or irreligious struggles are. I always knew God loved me, and I was always grateful to him for the world he placed me in. I always liked to tell him so, and was always glad to receive his suggestion to me. To grow up in this way saves boy or youth from those battles which men try to describe and can not describe, which seem to use up a great deal of young life. I can remember perfectly that, when I was coming to manhood, the half philosophical novels of the time had a deal to say about the young men and maidens who were facing the "problem of life." I had no idea whatever what the problem of life was. To live with all my might seemed to me easy; to learn where there was so much to learn seemed pleasant and almost of course; to lend a hand, if one had a chance, natural; and if one did this, why he enjoyed *life* because he could not help it, and without proving to himself

that he ought to enjoy it. I suppose that a skillful professor of the business could have prodded up my conscience, which is, I think, as sensitive as another's. I suppose I could have been made very wretched, and that I could have made others very wretched. But I was in the hands of no such professor, and my relations with the God whose child I am were permitted to develop themselves in the natural way.

In fact, dramatic conversions are probably largely due to the fact that religious growth is somehow morbidly retarded until a breaking point is reached. Beneath the surface there is a constant but unconfessed growth toward the religious life, but it is not permitted to express itself as rapidly as it matures. In consequence there is accumulated a strain which either, as a suppressed instinct, passes away by dissolution, or breaks out at some time into open eruption. Certainly such eruptions are better than the disappearance of the religious interest by dissolution, but it would seem far better still, if, as rapidly as religious impulses develop, they could express themselves — if, at periods of transition, one's life could quietly open out into a larger range, and, during intervening periods of monotony, one could make these acquisitions of his moments of special communion and revelation his own through their clarification and application in practice. Starbuck conforms to a widely-held conviction when he says on this point:

It is doubtless the ideal to be striven after that the development during adolescence should be so even and symmetrical that no crisis would be reached, that the capacity for spiritual assimilation should be constantly equal to the demands that are made on consciousness.

EXERCISES

1. Have you observed "plateaus" in the course of your own learning? Have you found any means of avoiding them? How would it be to give up work, or at least to slacken effort, while they last? What should be done?
2. Friar Lawrence counsels Romeo to "love mildly; long love doth so." Discuss that advice.

3. Some one has said: "The youth is distinguished by falling in love. If he is not in love with a maiden he is in love with love." Is it, or is it not, advisable for a youth to remain during youth "in love with love," associating with members of the opposite sex, but not allowing himself to become so entangled with any one that the breaking of friendship, inevitable in the case of most early attachments, may not cause an undue amount of pain?

4. Is Jerome right in expecting more from "affection" than from "love" in making a couple permanently happy? What is the difference?

5. What advice would you give to one driven to despair by some great disappointment?

6. Do you find your impulses oscillating between good and bad? Is the author's advice as to using good impulses and holding off bad ones correct and feasible? Why?

7. What is the relative importance of inspiration and habit in character building?

8. Is there any essential difference between a conversion which comes suddenly, and one which consists of so many stages in the awakening process as to seem practically a continuous growth? Do all churches emphasize equally the dramatic conversion?

CHAPTER XXVIII

THE STRONG MAN'S RELIGION

Religion to be rightly interpreted. — A few years ago a prominent Chicago business man wrote and distributed, at considerable expense to himself and at no small risk to his reputation, a book on "The Utility of All Sorts of Higher Schooling." In this he roundly condemned higher education as "a course of four years of social life at some university," consisting of "useless and extravagant frills and fads," and "filling the head with a lot of impractical stuff." And doubtless there was much about higher education to justify the worthy gentleman's conclusions. Many instances of time wasted, or worse than wasted, as well as much "impractical stuff" crammed into the heads of students, could be found. But this critic had unfairly taken higher education at its worst. Had he searched out its inner spirit, its hopes, its aspirations, and evaluated these his verdict would have been much more charitable.

Now the same dual viewpoint may be taken with regard to religion, and before we commend it as a mark of strength to the seeker after the largest life we must protect ourselves against being interpreted as urging a type of weakness and of selfishness masquerading under the name of religion, in the same way in which the "fads and frills" and the "four years of social life" sometimes masquerade under the name of higher education.

Perverved religion. — The abuse to which we refer is the effort to use God for selfish ends, and religion as a prudential consideration. Not a few persons calling themselves reli-

gious, taking advantage of the privilege which they understand to be guaranteed to them to ask what they will and receive it, would have the Divine Ruler of the Universe swing the whole world around their petty whims. If they want bread, they will pray for it, instead of earning it; if they want rain, they will ask God to send it, while they idly wait; if they want success in any enterprise, they will rely upon God to send it to them, just because they are bold enough to confidently expect him to do so. Their whole ambition, judging from their talk, is to measure out the "mint and anise and cummin" with such scrupulous care as to make sure of a life of sensuous pleasure hereafter.

A prayer by Peer Gynt in Ibsen's play is typical, though in somewhat exaggerated form, of these requests from the Deity for selfish personal favors. It is uttered when his servants sail away with his ship, leaving him on shore:

My brute beasts of friends — Do but hear me, O Lord!
Since thou art so wise and so righteous — O Judge!
It is I, Peter Gynt: O, our Lord, give but heed:
Hold thy hand over me, Father, or else I must perish!
Make them back the machine! Make them lower the gig!
Stop the robbers! Make something go wrong with the rigging!
Hear me! Let other folks' business lie over!
The world can take care of itself for the time!
I'm blest if he hears me! He's deaf as his wont is!
Here's a nice thing! A god that is bankrupt of help!
Hist, I've abandoned the nigger plantation!
And missionaries I've exported to Asia!
Surely one good turn should be worth another!

Now it is just such perversion of religion that has tempted men to view it as a mark of weakness rather than of strength. It was such perversion that induced Holbach to contrast it unfavorably with reason, and Nietzsche to find the roots of Christianity in cowardice. But such individualistic self-seeking is not really religion, — has nothing in common *with true religion*. Indeed, it is the very opposite of genuine

religion in its developed form. For religion can not be selfish. In its very nature it must carry a man beyond his own skin — must unself him as a finite and isolated creature.

Prayer and aspiration. — And so the prayer of Peer Gynt and of his analogues, while indeed exemplifying the spirit out of which prayer actually arose among savage peoples, represents by no means the noble spirit of prayer among a people of developed religious nature. "Prayer," as the poet has said,

is the soul's sincere desire,
Uttered or unexpressed,

and, as such, expresses an intensity of ideal striving to which the petty self-seeking of the prudentially religious could never rise. For it is not when one is passive and indifferent that he prays. At such time he has no "heart's sincere desire." He has at most a "Barkis-is-willin'" attitude toward the blessings which Heaven may roll down upon him, but not that mighty yearning which real prayer involves. On the other hand, when one is striving mightily for what he deems the right, and feels the need of a supplementation of his weak human powers, when there weighs down upon him such a tragic sense of the importance of his work that he feels the urgent necessity of greater might than his own to perform adequately that work, and when in this earnestness he turns to the Self that is greater than he and implores added strength for the task, it is then that he pours forth his heart in genuine prayer.

It is therefore not the weak man who really prays. It is the strong man. It is the man who takes life seriously enough to care. It is the man of high ideals and of intense devotion to them. It is the man in whose life there well up torrents of energy and of ambition. It is the man who courageously takes hold of large enterprises and who, instead of feebly giving up when confronted by difficulties, presses forward and commands all available forces to carry him

through. It is the man of mighty will alone who thus, in a determined spirit, along with God, carries through his enterprises which others would give up.

Prayer the essence of religion. — It is in such prayer that the essence of religion consists. Prayer, says Sabatier, is:

a commerce, a conscious and willed relation into which the soul in distress enters with the mysterious power on which it feels that it and its destiny depend. This commerce with God is realized by prayer. Prayer is religion in act — that is to say, real religion. . . . Religion is nothing if it is not the vital act by which the whole spirit seeks to save itself by attaching itself to its principle. This act is prayer, by which I mean, not an empty utterance of words, nor the repetition of certain sacred formulas, but the movement of the soul putting itself into personal relation and contact with the mysterious power whose presence it feels, even before it is able to give it a name. Where this inward prayer is wanting there is no religion; on the other hand, where this prayer springs up in the soul and moves it, even in the absence of all form and doctrine clearly defined, there is true religion, living piety.

Religion and work. — So religion clusters about prayer, and prayer about work. Who works hardest prays hardest. Who will not earnestly work does not have the personal forcefulness to sincerely pray. But the prayer to which we refer need not be a rhetorical, nor even an articulate, one. It need not be separated in time or place from the task. One prays while he works when he goes into his task with a high, yearning idealism; when he feels a sense of its vastness and opens his life to guidance and inspiration from above; when he continually feels that it is but an incident in a vaster whole; and when he tries to look upon it as he believes the Great Taskmaster does. It is in this way that the strong man obeys, by the very force of his lofty idealism, the command to "pray without ceasing," for his prayer and his work make one indissoluble unity. Henry Ward Beecher says:

Therefore the man who bends over his bench may be as really worshipping God, fulfilling the will of God, and doing God's service, as he who bends over the altar. He who stands at the blacksmith's forge may be as really rendering God service as he who reads from the Psalms and the Gospels. He who is rightly performing the duties of life is worshipping, if worship means rendering acceptable service to God.

One who is not slothful in business, one who gives the full activity of his nature to the things which concern him in the sphere where God has planted him, has his mind in that condition in which it will ever be in communion with God.

The schoolboy's religion must lie in the duties of the school-boy. The sailor's religion must conform itself to the duties which are incumbent on the mariner. The merchant's religion must be found within the compass and bounds of commercial life. None of them are to be shirked.

There is no place where God puts you where it is not your duty to turn round and say, "How shall I perfume this place, and make it fragrant as the honeysuckle and the violet, and beautiful as the rose?" In this world you are to perform the great duties of spiritual, moral, and physical life, in the place where you are.

Exactitude, trustworthiness, where there is no eye but God's to see; the fulfilling of a sense of true Christian manhood in that which is disagreeable — these things constitute taking up the cross.

Religion gives scope to work. — But work, done thus in the spirit of prayer, is transfigured. Through religion the strong man's work takes on the touch of infinity. Without it he would look upon his task as a routine duty of the day; but when he works as a conscious servant in the Kingdom of God he sees his task as one aspect of the great and multiple endeavor by which the divine life is progressively embodied in the universe. Hence his life takes on such scope and dignity as can, by the vastness and seriousness of its challenge, make a big man.

Morality and religion. — So here emerges the difference between mere morality and religion. A man who is merely moral would be only prudentially so. He would live by the maxim that "Honesty is the best policy." But most

men are moral on a higher level. They would be honorable even though they knew that it did not pay. They would be so out of a compelling sense of loyalty. They feel that somehow their conduct touches a reality much deeper than that of the present moment, and that it behooves them to maintain the dignity and integrity of this deeper reality. And hence they are more than moral; they are really religious. For it is only necessary that men who are moral on the plane of loyalty instead of prudence, should trace out the real implications involved in their attitude to find that they are already working in the service of God. For this larger truth and honor, which they are maintaining, belong to God. They are working with him but not knowing it, and by this ignorance they are needlessly cramping their lives. They are working in a large service without conscious and systematic drafts upon the source from which dynamic force must come. What they should do is to recognize consciously that they are sons of God, definitely align themselves with him, and get that inspiration and sense of security which can come from consciousness of service in the Kingdom of Heaven, and to which, by their essentially religious attitude, they have all along been entitled.

Faith and work. — Faith, which has ever been rightly held such an important part of religion, consists in just such attitude. Faith is not blind credulity. It does not consist, as one boy thought, in trying to believe what you know is not true. It has really nothing to do with the mental acceptance or rejection of dogma. One can have sublime faith and yet never have put his theology into words, or, on the other hand, can give strenuous assent to every article in the creeds and yet be absolutely lacking in genuine faith. Faith in God consists in the ever present conviction that while "God's in his Heaven all's right with the world"; that this moment's task is a bit of his larger work; and that, if *it is done at one's best*, it will be so supplemented and taken

care of as to bring forth fruit in due season. Faith in Christ lies in a vital appreciation of his message and of the ideals which he proclaimed, and in an inspiring certainty that these ideals must and will win out through time. Faith in the Kingdom of God rests in an overpowering sense of the strength of its claim, in a feeling of its worth, and in a passion that it shall triumph. Such faith is evidently not passive. It is not the possession of the person who sits down and waits, confident that some one else will bear the whole cross. It can be the possession only of the mighty worker, for whoever has such overwhelming sense of the value of the cause in which he has faith, and of the importance that it should be speedily more largely realized, will, by his inner passion, be of necessity propelled forward into strenuous battle for the triumph of that cause. It is by such loyal, aggressive attitude, and not by verbal confession, that one shows his faith. The Apostle James writes:

What doth it profit, my brethren, if a man say he hath faith, and have not works? Can faith save him? If a brother or sister be naked, and destitute of daily food, and one of you say unto them, Depart in peace, be ye warmed and filled; notwithstanding ye give them not those things which are needful to the body; what doth it profit? Even so faith, if it hath not works, is dead, being alone. Yea, a man may say, thou hast faith and I have works: show me thy faith without works, and I will show thee my faith by my works.

Religious doubt. — *Normal for adolescents.* — This brings us to the problem of religious doubt. It has unfortunately been the custom to tie up religion with the blind intellectual acceptance of certain authoritative creeds, and to insist that everything of these creeds be taken or none. The result has, with strong young men and women, usually been the choice of the latter alternative. They are almost sure to come, at some time, to the position of Mrs. Alving, in Ibsen's "Ghosts," when she says to Pastor Manders:

It was then that I began to look into the seams of your doctrine. I wanted only to pick at a single knot, but when I had got that undone the whole thing unravelled out. And then I understood that it was all machine sewn.

In fact investigation has shown that practically all adolescents go, in their teens, through just such periods of doubt, in which they strongly revolt against many of the doctrines which they had been taught to regard as fundamental. Professor Starbuck says :

Doubt seems to belong to youth as its natural heritage. More than two thirds of the persons whose experience we are studying passed through a period sometime, usually during adolescence, when religious authority and theological doctrines were taken up and seriously questioned. To be exact, 53 per cent. of the women and 79 per cent. of the men have had a pretty distinct period of doubt, which was generally violent and intense. In Dr. Burnham's "Study of Adolescence," three fourths of his cases passed through such a period.

Doubt no sin. — Nor is doubt morally reprehensible, as it is often represented to be. To doubt honestly is no sin. In fact, as the poet tells us,

There lives more faith in honest doubt,
Believe me, than in half the creeds.

Professor Holmes says :

Between thirteen and nineteen the boy disappears and the man emerges. The first mark, then, of this mental change will be skepticism. Skepticism itself has a negative and a positive side. The first stage demands that the boy shall forget his boyhood gods; to him they are become the idols lent by others. They have served their little day and must pass out. Now the time has come for the erection of his own one true God, his very own and his very true deity. Equally is this true in the moral world. Whereas as a child he has dutifully accepted the moral system of his father, or mother, or teachers without question, he now begins to think for himself. . . . Once he was quite satisfied to be told a thing was wrong. . . . Now the statement that a thing is wrong is only an irritant that brings forth innumerable questions. . . .

If he is ever to have a real self, or a real morality, or a real religion he must go through the process of clearing the ground from all tangled rubbish of his past. If in the place of the old a new temple is not erected that is the fault of his teachers. . . . The truth we have doubted the most and fought the hardest, when last it overcomes us, becomes the surest truth we possess. The world's greatest men of faith have come from the ranks of its most stubborn skeptics.

And Professor Starbuck still more emphatically says:

The prevalence of religious doubt and storm and stress seems to be the result of natural selection. Those persons have been chosen out as most fit to exist who do not take things simply on authority, but who gain for themselves a rational hold on truth. Nothing is really understood at first hand until it has been called up into consciousness, and then worked over into experience. As childhood is the time for the acquisition of good habits through imitation and conformity, so nature has made another wise provision by which each person may not only comprehend the best the race has produced, but bring to it his or her bit of improvement. Adolescence is the time for those divergences from conventional types which enlarge the range of human wisdom and experience.

Doubt should not be stifled. — Doubt should not, then, be prematurely stifled. One should courageously fight his way through it to firm rational ground. Of course this will inevitably involve a tragic stirring of the depths of one's life, a period of bitterness and of alienation, but these are the birth pangs by which alone a strong religious person can be born. If doubts are irrationally stifled they do not pass away. They lurk within and fester there or break out later, by way of substitution, in a narrow and pathetic religious fanaticism. Professor Starbuck says on this point:

We have scarcely outgrown the conception, especially in ecclesiastical circles, that to doubt is sin. There are several instances in the records we are studying in which, when honest questionings have occurred during late childhood or youth, they have been hushed by well-meaning parents or teachers. The result is usually a weakling who can not grapple with the more serious

matters of life, or a person in whom the normal currents of life are dammed up only to have them break out more violently at some later time. It should be seen that doubts are part of a development which, given certain temperaments, are inevitable, and which are normal and natural if the personality is to attain its highest possibilities.

Phil Goodrich, one of the characters in "The Inside of the Cup," relates a typical experience when he says :

I have never, perhaps, been overburdened with intellect, but the time arrived nevertheless when I began to think for myself. Some of the older boys went once, I remember, to the rector of the school — a dear old man — and frankly stated our troubles. To use a modern expression he "stood pat" on everything. I do not say it was a consciously criminal act — he probably saw no other way out himself. At any rate he made us all agnostics at one stroke.

It is only, then, as one comes to stand on his own feet that he can be really a strong son of God.

"Whoso would be a man must be a nonconformist. He who would gather immortal palms must not be hindered by the name of goodness, but must explore if it be goodness. Nothing is at last sacred but the integrity of your own mind. Absolve you to yourself, and you shall have the suffrage of the world," said Emerson, the herald of the gospel of youth. "Insist on yourself; never imitate." "To thine own self be true," are the wholesome sentences that have called many a slumbering youth into possession of himself, and set him into the way which leads to strong and beautiful manhood.

Doubt seldom involves permanent break. — And yet experience has abundantly proved that doubt, when completely worked out, does not involve the radical break with traditional belief that at first it seemed to threaten. One comes back after his circuit to much the same doctrines with which he started, but with an infinitely richer meaning in them. He is like the man who restlessly leaves his home and goes out to "do" the world, but who after a while comes back

to the old place and the old loves, though with a poise and a mellowness that he could not have had apart from his wanderings. Professor Royce tells us, regarding his ethical beliefs,

I myself have spent my life in revising my opinions. And yet, whenever I have most carefully revised my moral standards, I am always able to see, upon reviewing my course of thought, that at best I have been finding out, in some new light, the true meaning that was latent in old traditions.

And this experience is still truer of religious wanderings.

Professor Shaler, for example, says that it was a more profound grasp of science itself that brought him back from an early excursion into religious negations. . . . Similarly, Romanes, who made the entire circuit from belief to unbelief and back again to Christian faith, never abandoned his early ideals, but only corrected them by a more rigorous analysis of scientific procedure, and enlarged them by his growing experience of life.

One must, it seems, strongly react against a situation before he can adequately adjust himself to it. In this way he sets it over against himself and thoroughly studies it. And out of this study there comes a higher type of understanding and a more intelligent and sympathetic adjustment than could have been realized without such period of alienation. It seems that one's course must be from a low type of union with a situation, through an alienation from it, and back to a higher type of union with it.

Youth inclined to be too radical. — Hence in youth one is not unlikely to be too little appreciative of the institutions and beliefs which he finds current. As Professor Coe says :

With one's first taste of intellectual independence, one is apt to fancy that the old world is a crude affair, which young men like oneself must make over before it will amount to much. Such self-projection is natural to the young man's stage of growth. He himself is passing out of a child's world into a man's world, and the subjective experience is so absorbing as to color all he sees. He beholds two worlds, an old one and a new one, and the whole mean-

ing of things appears to be that the old should give place to the new. The world must move with him. If it does not he is vexed. He frets at the apparent immobility of thought; he chafes at the indifference of men to his vision. His visions are not false, but they contain only a part of the spectral colors. To see things in the white light of truth, he must acquire the historical sense. He must learn that he himself, with his ideals, is a product of this old world. Incomplete as it is, too, this world is made up of the stratified ideals of other young men who, in the vast succession of the generations, have struggled for a future better than their own present. Thus ideas and institutions are ever old and young at the same time. Authority and individualism are inseparable. Authority is the individualism of the past, and individualism is an effort to make authority of the present. Choose one to the exclusion of the other, and you tie yourself to the merely temporal. What we need is to discern the eternal in the process of the ages, and the effort to do so is true allegiance to authority.

So one does well not to make too much of his doubts. One should promise himself that he will give them a complete hearing, but he should be equally determined that that hearing should be patient and rational. Hence one must postpone decision until he has had ample opportunity to think and read and learn. He is in no position to settle the matter finally until he has made a thorough study of science, of history, of philosophy, and of religion. But in the meantime he can safely hold on a little longer to the old formulæ. They have served for thousands of years, and they can serve him until he has had time to soberly mature better ones. And when he has had this time he is almost sure, anyway, to come back to those same formulæ, only conceived in a more spiritual way.

Three characteristics. — *Religion needs dogma.* — For religious thought must have three characteristics, all of which the preceding satisfies. In the first place it must make itself articulate in some sort of theology. A religion without any definite doctrine would be just like concepts without names to tag them, and we have seen that such ideas, not "nailed

down and held fast " by words, are almost certain to evaporate. If religious conviction is to be strong and steady it must have its backbone in some adequate articulate form of expression. Says M. Sabatier :

By suppressing Christian dogma you would suppress Christianity; by discarding all religious doctrine you would destroy religion. How many great and eternal things there are which never exist, for us, in a pure and isolated state! All the forces of nature are in this case. Thought, in order to exist, must incarnate itself in language. Words can not be identical with thought, but they are necessary to it. The hero in the romance, who was said to be unable to think without speaking was not so ridiculous as was once supposed, for that hero was everybody. The soul only reveals itself to us by the body to which it is united. Who has ever seen life apart from living matter? It is the same with the religious life and the doctrines and rites in which it manifests itself. A religious life which did not express itself would neither know itself nor communicate itself. It is therefore perfectly irrational to talk of a religion without dogma and without worship. Orthodoxy is a thousand times right as against rationalism or mysticism, when it proclaims the necessity for a church of formulating its faith into a doctrine, without which religious consciousnesses remain confused and undiscernable.

Should use old symbolism. — The second condition is that advanced religious thought must use the same method of expressing itself — the same symbolism — as the primitive, only it must put into this symbolism a broader and more spiritual meaning. For the future must build upon the past. If we would move men we must hitch up to their own viewpoint. This we long ago learned in our study of the psychology of tact. This, you remember, Jesus did when he proclaimed that he had not come to destroy the law but to fulfill it. The Mosaic doctrines he accepted, the Jewish theological terms he employed, but enriched them with a larger meaning. One must, in his religious thinking, use *some* sort of symbolism, and there is as much sanity in using that rich old symbolism of the past centuries as there is in

communicating one's thoughts in general through the language of one's native country. All we need to do, as our religious conceptions enlarge, is to put into our old terms this bigger meaning, not to drop the terms. Says Sabatier, again :

There is a latent contradiction in every symbolic idea. To get rid of this contradiction the understanding is obliged to eliminate from these ideas the sensible element which remains in them and renders them inadequate to their object.

By progressive generalization and abstraction, reasoning attenuates the primitive metaphor; it wears it down as on a grindstone. But, when the metaphorical element has disappeared, the notion itself vanishes, in so far as it is a positive notion. There are mysterious lamps which only burn under an alabaster globe. You may thin away the solid envelope to make it more transparent. But mind you do not break it; for the flame inside will then go out and leave you in the dark.

So with all our general ideas of the object of religion. When every metaphorical element is eliminated from them, they become simply negative, contradictory, and lose all real content. Such are our pure ideas of the infinite and the absolute. If you would give them a positive character, you must put into them some element of positive experience. . . . Born of the primitive symbols of religion, all our religious ideas will therefore necessarily keep their symbolic character to the end.

Must be progressive. — And in the third place, true religious thought must be progressive. The spirit of religion itself will remain eternally the same, but the theology through which it is expressed will necessarily continually widen the connotation of its terms to keep abreast of advancing thought.

Says Professor Coe :

The actual religion of any age or of any people cannot possibly be transferred to other peoples or other ages.

“Each age must worship its own thought of God,
More or less earthy, clarifying still
With subsidence continually of the dregs;
Nor saint nor sage could fix immutable
The fluid image of the unstable Best,
Still changing in their very hands that wrought.”

There is accordingly a sense in which we may say that religion needs to adjust itself to the men of every new generation. This is only another way of saying that each generation must be religious for itself; that religion, being a vital process, is incapable of being handed down, like houses and lands, from father to son. Abraham could not possibly have communed with God in just the way that the Apostle John did, as, on the other hand, John would hardly have called a man religious who followed merely the ideas and practices of Abraham.

Religion does not come down from heaven as a finished thing to which men must adjust themselves: rather it arises through their own inner impulses and longings; these are instruments whereby the Father prevents men from being contented until they come into communion with him. Proceeding thus from within outward, religion requires adjustment as continual as life itself. A developing humanity implies a developing religion. Faith must ever make new discoveries of its own essential wealth, and of its inherent adaptability to the whole of developing human nature.

Religion and strength. — Now when we understand religion in this broad sense it is plain that no man can be at his strongest without it. The weak may be theological, but only the strong can be genuinely religious, nor can any man be his whole true self who does not command, as a reinforcement of his life, the infinite Power and Wisdom of the Universe which is standing ready to work through every man who is willing to open his life to it. It is, indeed, this infinite Power, whether one knows it or not, that prompts and sustains all worthy endeavor. Says Bedloe Hubbell, in "The Inside of the Cup":

Now comes Hodder with what I sincerely believe to be the key. He compels men like me to recognize that our movements are not merely moral but religious. Religion, as yet unidentified, is the force behind these portentous stirrings of politics in our country, from sea to sea. He aims, not to bring the church into politics, but to make her the feeder of these movements. Men join them to-day from all motives, but the religious is the only one to which they may safely be trusted.

And hence our age — earnest and virile as it is — is really religious perhaps beyond any previous one. In its earnest endeavor for personal, political, social, and industrial good, it is struggling to bring to completion that ideal state of mutual interest and coöperation which Jesus called the Kingdom of Heaven. Men do less talking in theological terms than they once did. It is harder to get them out to church than formerly. But there is a higher political and social idealism, a purer morality, a more earnest spirit of coöperation and fellow-feeling, than in any previous age, and this spirit is the external expression of a deep and vital religious impulse, though seldom recognized as such.

A complete self must be religious. — We have been all along seeking to know how one can be really and consistently strong. Our past twelve chapters have been contributing toward the conclusion, but here we swing that conclusion out to its widest boundaries. The strong self must be the complete self, and the complete self is the religious self, working with the might with which only an avowed son of God can work in our present earnest, and therefore religious, society. Says Coe :

We are all religious, but some are not religious enough. Some are neglecting to give this deepest self the means of self-expression. Others are half-hearted or one-sided. Some prefer the lower, merely particular, self, with its bounded horizon. It remains for such persons voluntarily to turn their attention to this factor of consciousness so as to make clear what is otherwise obscure, to make complete what is otherwise fragmentary, and to choose such ends in life as satisfy this inevitable God-consciousness. We can choose to listen to the inner voice and obey it, or by choosing not to listen, we can blunt our sense to it.

Religious work and culture have the task of developing this sense of God until it becomes the commanding factor of the life. We have not to ask men to take into their lives something foreign to their nature. Our invitation is rather this: "Be your whole self. Be completely in earnest with your intellectual sincerity, with your conscientiousness, with your love of fellowmen, with

your aspiration for all that is true and beautiful and good, and you will find that a sense of God is the moving spirit of the whole."

Some among us are confused, timid, and non-committal because they do not clearly see how being religious is different from simply living a good life. Others are waiting for some special, phenomenal revelation which shall convey a message not otherwise obtainable. All such persons are like the bird and the fish in the poem.

"Oh, where is the sea?" cried the fish.

and

"Oh, where is the air?" cried the bird!

Let such men know that the religious experience is not something different from living a good life, but is just living it more abundantly. It is the inmost being of such a life. Let them know that we have not got to go up into the heavens to bring God down, or into the depth to bring him up. He is very nigh us. "In him we live and move and have our being." What we need is not an infusion of something that ever was totally outside of us, but a complete development of what is already within us. God has not left us without a witness of himself in our very members. Whoever sincerely approves anything that is worthy of approval, whoever is touched by the true, the beautiful, or the good, has within him a germ of the worship of God. What is demanded of us is such a repentance of all that is mean, half-hearted, and fragmentary as will let that germ grow toward its source as the trees grow toward the sun. We must permit the religious function of our natures to receive God and to rest in him. We must give it a chance to express itself. We must, finally, obey its dictates until, like the leaven of the parable, it leavens the whole lump of our life.

If some one should ask, "But how can I be sure that this which seems to be the voice of God can be trusted?" the answer is still the same, "Live a complete life." Worship is so wrought into the fiber of our minds that we need only come to ourselves to find God. . . .

It is not improbable that, as the years go by, men will rest more and more calmly upon this assumption. There can be no higher destiny or duty for us than just to be our whole selves. Expressed in terms of theology, this is nothing more than experience of the immanent God. It is at once faith and sight. For the practical effect of faith is that we find ourselves at home where we are by assuming that God is there with us. And what more

can seeing do? What we need, and what we are coming to find, is the God within the commonplace.

“From Horeb’s bush the Presence spoke
To earlier faiths and simpler folk;
But now each bush that sweeps our fence
Flames with the awful Immanence.”

EXERCISES

1. Has one, or has one not, a right to pray for anything which is of value to him at the expense of others? For what is of value to him at the expense of the uniformity of nature?

2. Is it true that genuine prayer grows out of idealism and expresses the strong man’s yearning to succeed in his work?

3. Which do you believe is central in religion, the spirit of prayer or the observance of ceremony? What is the place of ceremony?

4. What is the relation of religion to one’s daily duties?

5. Why is not morality alone enough to complete a man’s life? What is there about religion which mere morality lacks?

6. Do you believe it is wrong to doubt? Did not the religious reformers of the past become useful to the world just because they did doubt what others accepted? But can one afford to stop with merely negative conclusions?

7. What is the value of a period of doubt if one comes back, after long and frank meditation, to essentially the same doctrines as those from which he started, as many men do?

8. Why should the church not nurture reverence, idealism, and fraternalism, but avoid entirely any articulate theology?

9. Why should the religious reformer, in attempting to express religious doctrines in such a way as to accord with modern thought, not drop entirely the old symbolism, and adopt a new one taken from the technical terms of modern science?

10. Are changes in theology and changes in religion the same thing? Explain.

MINIMUM LIST OF BOOKS FOR COLLATERAL READING

ANGELL, "Psychology," Holt.

BETTS, "The Mind and Its Education," Appleton.

COE, "Religion of a Mature Mind," Revell.

COLVIN and BAGLEY, "Human Behavior," Macmillan.

CREIGHTON, "Introductory Logic," Macmillan.

GULICK (Jewett), "Control of Body and Mind," Ginn.

HALLECK, "Psychology and Psychic Culture," American.

HYDE, "Practical Ethics," Holt.

JAMES, "Psychology, Briefer Course," Holt.

JAMES, "Talks to Teachers on Psychology, etc.," Holt.

KITSON, "How to Use Your Mind," Lippincott.

MACCUNN, "The Making of Character," Macmillan.

MACKENZIE, "Manual of Ethics," Hinds and Noble.

MARDEN, "Pushing to the Front," "Success," "Every Man a King, etc.," Success Company.

PAYOT, "Education of the Will," Funk and Wagnalls.

ROYCE, "Philosophy of Loyalty," Macmillan.

WILSON, "Talks to Young People on Ethics," Scribners.

WILSON, "Making the Most of Ourselves," McClurg.

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